

# **Baker's Battle on the Yellowstone, August 14, 1872**

Report Prepared by Dave Eckroth and Harold Hagen  
Frontier Heritage Alliance  
Sheridan, Wyoming, January 07, 2004

## **National Park Service Disclaimer**

*“This material is based upon work assisted by a grant from the Department of the Interior, National Park Service. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the Department of the Interior.”*

## **I. Baker's Battle on the Yellowstone, August 14, 1872 Abstract**

This Report has been prepared with a grant from the American Battlefield Protection Program (Grant No. GA 2255-00-009) to the Frontier Heritage Alliance, Sheridan, Wyoming.

This information is organized in the following sections: Abstract, Table of Contents, Introduction, History of the Battle, Post-Battle and Current Conditions at the Battlefield, Archeology, Conclusions and Recommendations.

The purpose of this report is to place in the public record extensive archival and archeological information which the authors have compiled over a period of twenty five years. This study verifies the location of and describes two sites: Baker's Battle of 1872 and Tracy's Steamboat Landing. It is the authors position that Baker's Battle of 1872 is the first major engagement between the non-treaty bands of Indians, primarily Sioux, Cheyenne and Arapaho (those bands that refused to sign and abide by the stipulations of the Laramie Treaty of 1868) and the U.S. Army in what was known as the non-ceded

hunting region (land designated by the Treaty of 1868 as hunting territory). Tracy's Landing was documented since it is adjacent to the battlefield though unrelated to the battle.

It is the authors position that Baker's Battle on the Yellowstone and the subsequent failure of the Northern Pacific expedition to survey to the mouth of the Powder River in the summer of 1872 proved to be among the precipitating factor in a chain of events that led to the Great Sioux War and ultimately to an acceptance of the Reservation System.

The authors propose that there is a direct correlation between the failure of the Yellowstone Expedition of 1872, the significant financial expenditures to field the 1873 Expedition and the collapse of the Northern Pacific Railway during the Great Economic Panic of 1873.

The authors intent is to show that Sitting Bull and Crazy Horse's inspiration and leadership on the banks of the Yellowstone had a profound impact on the Sioux, both reservation and non-reservation. While the soldiers were claiming victory at Baker's Battle, news of the fight and of the departure of Baker's expeditionary force from the Yellowstone Valley arrived at the Sioux and Cheyenne reservations. The courage of the warriors and the daring actions of such key leaders as Sitting Bull and Crazy Horse sparked a popular movement by many of the reservation Sioux and their allied bands to return to a more traditional way of live not driven by a Reservation system.

The authors suggest that the non-reservation Sioux came to the realization that a fundamental change in their methods of warfare would be necessary to defeat the U.S.



military, i.e.: a more organized approach relying less on the individual battle honors.

The authors present the stand that The Yellowstone Expedition's failure to complete the survey in 1872 would be one of the major factors impacting the U.S. military's decision to rethink their approach to the Sioux 'problem' and result in policies by the government which would set in motion the Great Sioux War of 1876-77.

This report was also undertaken to determine if and to what extent the artifacts support or refute primary historical sources and written accounts regarding Baker's Battle. In addition the collection and analysis of the artifacts provides the historical community with detailed information regarding the arms and ammunition used by the Indians during this battle. The report also documents the ammunition used by the soldiers and civilians who fought in this battle.

This project describes Tracy's Steamboat Landing on the Yellowstone River, which is adjacent to Baker's Battlefield. This was the site where thousands of buffalo hides were stored for shipment during the summer of 1879 – 1880.

This report demonstrates that amateurs in collaboration with professionals in the fields of History and Archeology could produce a quality report which expands research and knowledge in the area of Indian Wars history.

This report includes the following: a concise historical account of the battle on the Yellowstone, August 14, 1872; accurate and precise information on the weapons and ammunition used by the soldiers, civilians and Indians during the battle; detailed and descriptive maps, showing locations of Sioux, Northern Cheyenne and Arapaho and U.S.

Army positions; 3D maps that show the progression of the fight and the locations of the participant; a fully documented and recorded inventory of the artifacts found on the battlefield and at nearby Tracy's Steamboat Landing; and images of the participants in the battle.

The report recommends first and foremost – the preservation of this site. The Principal Investigators and the Frontier Heritage Alliance have provided the State Historical Preservation Office with the information needed to nominate this site to the National Register. In addition we recommend that the site be nominated as a National Landmark Battlefield.

## II. Table of Contents

I.	<b>Baker’s Battle on the Yellowstone, August 14, 1872 Abstract</b>	<b>p. 1</b>
II.	<b>Table of Contents</b>	<b>p. 5</b>
III.	<b>Acknowledgements</b>	<b>p. 8</b>
IV.	<b>Introduction</b>	<b>p. 10</b>
V.	<b>History of the Battle</b>	<b>p. 18</b>
	a. <b>Baker’s Battle on the Yellowstone, August 14, 1872</b>	<b>p. 19</b>
	<b>Post Script 1.) The Baker Controversy</b>	<b>p. 71</b>
	<b>Post Script 2.): The horse thief who saved Major Baker’s Command</b>	<b>p. 79</b>
	b. <b>Timeline relating to Baker’s Battle on the Yellowstone, August 14, 1872</b>	<b>p. 84</b>
	c. <b>Timeline Sources</b>	<b>p. 105</b>
	d. <b>Sioux Indian Arms Trade</b>	<b>p. 119</b>
VI.	<b>Archeology at Baker’s Battlefield</b>	<b>p. 127</b>
	a. <b>Introduction</b>	<b>p. 127</b>
	b. <b>Physical Description of Baker’s Battle</b>	<b>p. 129</b>
	c. <b>Terrain Analysis of Military Significance to U.S. Army and Indian Warriors</b>	<b>p. 133</b>
	d. <b>Methodology</b>	<b>p. 134</b>
	e. <b>Sampling and Study</b>	<b>p. 135</b>
	f. <b>Battlefield Maps</b>	<b>p. 139</b>
	g. <b>Cultural Resource Analysis Chart</b>	<b>p. 142</b>
	h. <b>Artifact Cluster Areas</b>	<b>p. 143</b>
	<b>Indian Position # 1</b>	<b>p. 143</b>
	<b>Indian Position # 2</b>	<b>p. 150</b>
	<b>Indian Position # 3</b>	<b>p. 155</b>
	<b>Indian Position # 4</b>	<b>p. 159</b>
	<b>Indian Position # 5</b>	<b>p. 177</b>
	<b>Indian Position # 6</b>	<b>p. 182</b>
	<b>Indian Position # 7</b>	<b>p. 194</b>
	<b>Infantry Positions</b>	<b>p. 197</b>
	<b>Cavalry Positions</b>	<b>p. 210</b>
	<b>Captain Ball’s Skirmish Line and Avenue of Approach</b>	<b>p. 220</b>
	<b>Major Baker’s Campsite</b>	<b>p. 231</b>
	<b>Indian Headquarters (not surveyed)</b>	<b>p. 238</b>
	<b>Central Portion of the Slough (Civilian Position)</b>	<b>p. 238</b>
	i. <b>Artifact Locations Surveyed at Baker’s Battlefield on the</b>	

<b>Yellowstone (2000 – 2001)</b>	<b>p. 241</b>
<b>j. Artifact Identification</b>	<b>p. 255</b>
<b>k. Selective Analysis of Cartridge Casings and Bullets</b>	<b>p. 257</b>
<b>l. Weapons and Ammunition used at Baker’s Battle</b>	<b>p. 271</b>
<b>1. Weapons and Ammunition used by soldiers and civilians</b>	<b>p. 271</b>
<b>2. Weapons and Ammunition used by Sioux, Northern             Cheyenne and Arapaho</b>	<b>p. 275</b>
<b>3. Perspectives on the ‘Other’ Cartridge Casings</b>	<b>p. 290</b>
<b>VII. Conclusions, Recommendations, and Lessons Learned</b>	<b>p. 299</b>
<b>a. Conclusion</b>	<b>p. 299</b>
<b>b. Recommendations</b>	<b>p. 302</b>
<b>c. Lessons Learned</b>	<b>p. 303</b>
<b>VIII. Bibliography</b>	<b>p. 306</b>
<b>Appendix A: Firearm Identification Process</b>	<b>p. 311</b>
<b>Appendix B: Baker’s Battle Participant Lists</b>	<b>p. 329</b>
<b>a. Officers and Civilian, and others not included on the unit muster</b>	<b>p. 329</b>
<b>b. Muster Rolls of the 2<sup>nd</sup> Cavalry and 7<sup>th</sup> Infantry</b>	<b>p. 331</b>
<b>c. Sioux and Northern Cheyenne participants in the Battle of         Arrow Creek (Baker’s Battle), August 14, 1872</b>	<b>p. 348</b>
<b>Appendix C: Baker’s Battle Participants Bibliographies</b>	<b>p. 350</b>
<b>a. 2<sup>nd</sup> Cavalry Officers, Companies F, G, H, and L</b>	<b>p. 350</b>
<b>b. Seventh Infantry Officers, Company C, E, G, and I</b>	<b>p. 362</b>
<b>c. Other military or civilian participants in the Battle on the         Yellowstone, August 14, 1872</b>	<b>p. 367</b>
<b>d. Sioux and Northern Cheyenne Participants in Baker’s Battle         on the Yellowstone, August 14, 1872</b>	<b>p. 373</b>
<b>Appendix D: Tracy’s Landing – Historical Perspective</b>	<b>p. 376</b>
<b>Appendix E: Significance, Threat Assessment, Preservation and         Landowner Information</b>	<b>p. 393</b>
<b>Appendix F: Baker’s Battlefield Photos:</b>	<b>p. 397</b>
<b>Appendix G: Tracy’s Landing Photos:</b>	<b>p. 406</b>

<b>Appendix H: Sgt. McClarren Memorial Service Photos</b>	<b>p. 410</b>
<b>Appendix I: Captain Ball's Skirmish Line Photos</b>	<b>p. 412</b>
<b>Appendix J: Total Station Survey and Images of Captain Ball's Skirmish Line</b>	<b>p. 415</b>
<b>Appendix K: Misc. Images</b>	<b>p. 424</b>
<b>Appendix L: The Grave at the Site of Major Baker's Battlefield</b>	<b>p. 426</b>
<b>Appendix M: Letters supporting the Baker Battle Grant Project</b>	<b>p. 428</b>

### **III. Acknowledgements**

The following persons and organizations contributed to and made possible this report.

The authors are most grateful for their efforts and support. This report reflects the collective efforts of those listed. Their contributions are all important and no ranking is intended.

#### **People**

Bill Michael Jr. and III family – Landowners  
Jim Sindelar and family – Landowners  
Lewis Schroeder –Landowner, Deceased  
John Hawkins – Site location / metal detecting survey / artifact analysis  
Ken Feyhl – Archeologist / Historian – Tracy’s Steamboat Landing  
Douglas Scott – Firearm and ammunition Identification Study  
Brad Norling – 3-D Terrain Imagery  
Mel Walker – Battlefield and Tracy’s Landing Total Station Survey  
Tim Urbaniak, Professor, Montana State University, College of Technology: Total Station Survey and Imagery Compilation  
Norm Schoenthal – Montana State University, Billings Biology Professor Emeritus, Riparian Ecology Specialist  
Howard Boggess – Project Coordinator, Frontier Heritage Alliance  
Mike Penfold – Project Coordinator, Frontier Heritage Alliance  
Neil Mangum – Consultant / Grant  
John McDermott – Archival Research  
Jeannie Eder – Sioux Indian Contact  
Tim Mentz, Standing Rock Sioux Indian Cultural Preservation Officer  
Lenore Red Elk, Historian, Fort Peck Sioux  
Will Husted – Archeological work at Tracy’s Landing  
Stuart Conner – Access to files  
Chris Dietz – Field Work  
Al Hall – Field Work  
John Rogers – Field Work  
Hans Trueman – Field Work  
Steve Waddele – Field Work  
Dennis Nemitz – Field Work  
Roger Kessler – Field Work  
Mike Bryant – Artifact Identification  
Jim Snyder – Artifact and Terrain Photographer  
Mike Turley –Terrain Photography / Artifact Analysis  
Raymond Elgen – Artifact Analysis  
James Brust and Bryan Pohanca – Photo Contributions  
John Lubetkin – Source material on N.P.R.R. Surveys

Cal Cummins – Editing and Suggestions  
Frank Robertson, LTC, Retired – Gen. David S. Stanley and N.P.R.R. Survey Sources  
Aubrey Haines – Deceased, Historical Contributions  
Kim Scott – MSU Special Collections, Staff Ride, Historical Photographs, Editing  
Rebecca Kohl – Montana Historical Society, Photo Archivist  
Delores (Lory) Morrow – Montana Historical Society, Photo Archivist  
Rebecca Cape – Head of Ref. Services., Lilly Library, Indiana Univ. Source Material  
Laurie Eckroth – Editing  
Dan Patterson – Editing  
Mary Ellen McWilliams – Frontier Heritage Alliance – Editing  
Karen Gardner – Treasurer, Frontier Heritage Alliance  
Sam Dauer – Research  
Tim Hall – Transcriber  
Connie Hagen – Support

### **Organizations**

American Battlefield Protection Program  
American Legion / Marine Reserve / Vietnam Veterans/Veterans of Foreign Wars  
Army Historical Collection – Carlisle, Pennsylvania  
Frontier Heritage Alliance  
Library of Congress – Washington, D.C.  
Lilly Library, Indiana University, Bloomington, Indiana  
Montana Army National Guard 1-190<sup>th</sup> FA BN  
Montana Historical Society / SHPO  
Montana State University Special Collections – Bozeman, Montana  
National Archives (Washington D.C.)  
National Park Service  
Nez Perce Historical Park  
Peter Yegen Jr. Yellowstone County Museum, Billings, Montana  
Sioux Tribe (Standing Rock)  
South Dakota State Archives, Pierre, South Dakota  
Southwest Parks and Monuments Association  
United States Army  
United States Army Reserve  
Yellowstone National Park Archives

## **IV. Introduction**

The Grant for the Baker Battle Project has seven main objectives. Brief descriptions of each of these objectives are listed below.

Objective 1: Make contact with the Sioux Nation and obtain a letter of support: This portion of the project was completed by Howard Boggess. He contacted Tim Mentz, Sr., Tribal Historic Preservation Officer, Standing Rock Sioux Tribe. Mr. Mentz in a letter to Ms. Ginger Carter, National Park Service, American Battlefield Protective Program, dated November 20, 2000, expressed the Sioux Nation's support of "Baker's Battle on the Yellowstone, August 14, 1872 project."

Objective 2: Conduct an Archeological Survey of Baker's Battlefield, including the adjacent Tracy's Landing. Two investigators, using metal detectors surveyed the Baker Battlefield. These individuals marked the positions of the artifacts initially using pennies and subsequently lead disks with item numbers that correlated to each artifact. Following the acceptance of the grant, Mel Walker, surveyor was contracted to complete a total station survey of the battlefield and adjacent Tracy's Landing. He completed a records search for previous surveys of Baker's Battlefield and Tracy's Steamboat Landing, followed by the mapping of Baker's Battlefield and Tracy's Landing, which included prominent terrain features, the Sioux and allied positions and soldier positions, and other points of interest during August of 2001. Following the total station survey the principal investigators conducted additional metal detecting surveys. These additional surveys conducted through September 2002 uncovered meaningful evidence of a portion of the battlefield that was previously unknown. That area is now identified as Captain Ball's



skirmish line. Tim Urbaniak, Professor, Montana State University, Billings and Board member of the Montana Archeology Society assisted the project by conducting a total station survey of this recently discovered portion of Baker's Battlefield. He also created a graphic representation of the skirmish line and artifacts found within this location during November 2002 and June 2003. This portion of the report will be further detailed in Section VI: Archeology at Baker's Battlefield (which describes the various Indian and U.S. military positions, including Captain Ball's Skirmish Line), Appendix I: Captain Ball's Skirmish Line Photos and Appendix J: Total Station Survey and Images of Captain Ball's Skirmish Line.

Objective 3: Meet and follow the Secretary of the Interiors Standards and Guidelines for Archeology and Historic Preservation 9 in the Federal Register, September 29, 1983 [48FR44716]).

Standard I: Preservation Planning Establishes Historic Contexts: The principal investigators have developed a thorough history of the conflict along with maps and appendixes which provide a strong statement of this sites importance to the Sioux Indian War Period of American History.

Standard II: Preservation Planning Uses Historic Contexts to Develop Goals and Priorities for the Identification, Evaluation, Registration and Treatment of Historic Properties: The goals of this project are as follows:

- I. Place in the public record extensive archival and archeological information which the authors have compiled over a period of twenty five years.

II. Present the authors opinion that Baker's Battle of 1872 is the first major engagement between the non-treaty bands (those bands that refused to sign and abide by the stipulations of the Fort Laramie Treaty of 1868 ), primarily Sioux, Cheyenne and Arapaho and the U.S. Army in what was known as the non-ceded hunting region (land designated by the Treaty of 1868 as hunting territory).

III. Present the authors opinion that this battle signaled that the non-treaty bands were able to field a large body of well-armed warriors and could fight large bodies of troops to maintain their control over the disputed area. The significance of the action is that it provided pitched battle experience to the bands and enhanced the status of several notable Indian leaders, specifically Sitting Bull and Crazy Horse.

IV. Describe the impact that the battle would have on Government and Army policy.

V. Determine if and to what extent the artifacts support contemporary written accounts of the battle.

VI. Provide the historical community with detailed information regarding the arms and ammunition used by the Sioux and other non-reservation bands during this battle as well as the ammunition used by the soldiers and civilians who fought in the battle on the Yellowstone (arms and ammunition used during the Sioux Indian War period of the 1870's)

VII. Describe the work completed at Tracy' Steamboat Landing on the Yellowstone River, which is adjacent to Baker's Battlefield.

VIII. Demonstrate that amateurs in collaboration with professionals in the fields of History and Archeology can produce a quality report which expands research in the area of Indian Wars history.

Standard III: The Results of Preservation Planning Are Made Available for Integration into Broader Planning Processes. The Principal Investigators participated in a number of community presentations in hopes of triggering interest in this historic site. These presentations include a slide show at a local museum for archeology week, numerous local school presentations, a military staff ride for the Montana Army National Guard following the format provided by the U.S. Military Academy, and two presentations for the Westerners Corral. These presentations generated a great deal of community interest in Baker's Battle on the Yellowstone. The Principal Investigators plan to continue providing presentations, and are committed to work with a local museum for the development of a comprehensive display of artifacts, maps, images and other resources which will enhance the public knowledge of this significant historical site. The majority of the artifacts are in the possession of private owners, however, temporary loans and permanent curation of select artifacts from this event will be discussed with leaders of local museums as well with other repositories. The final report for this project will be given to the Montana State Historic Preservation Office, American Battlefield Protection Program, Frontier Heritage Alliance, local public library and other repositories.

Objective 4: Conduct historical research along with the archeological survey to develop a better understanding of the events leading up to, and following, the Yellowstone Expedition of 1872. John McDermott, Historian completed a visit to the National Archives at Washington, D.C. and the Army Historical Collection at Carlisle, Pennsylvania in October 2000. He provided a wealth of information pertinent to the Baker Battle project. The Principal Investigators conducted an archival search for images of the participants and other pertinent information relating to Baker's Battle on the Yellowstone through October of 2002. James Snyder, amateur photographer completed the photography for this project, including both terrain and artifact images by January 2001. Mike Turley, amateur photographer, assisted in the terrain photography portion of this project through September 2001. Brad Norling, GIS (Global Imagery Satellite) Specialist, completed the 3-D Images representing the progression of the battle in the form of Battle Phase maps in November 2002. The Principal Investigators completed a draft for review in June 2003.

Objective 5: Complete a National Historic Landmark nomination for the Baker's Battlefield Site. The Principal Investigators completed the National Landmark Nomination Form for Baker's Battle on the Yellowstone, August 14, 1872 on July 30, 2003.

Objective 6: Discuss the National Landmark nomination with the Montana State Historic Preservation Officer and the National Park Service's National Register of Historic Places. Contact was made with the National Park Service's National Register of Historic Places. The results of the contact was that the National Register of Historic Places would

communicate with the Montana State Historic Preservation Officer following nomination of Baker's Battlefield on the Yellowstone, August 14, 1872 as a National Historic Landmark.

Objective 7: Submit to the American Battlefield Protective Program for review and comments the draft archeological survey report and National Historic Landmark nomination no later than September, 2003. The Principal Investigators submitted the Baker Battle Report for final review on May 31, 2003.

In addition to the main objectives, the authors include fourteen appendixes that expand on the historical record.

Appendix A: Complete a firearm identification study of the cartridge casings and bullets found at the Baker Battle site: Douglas D. Scott, Technical Advisor, Association of Firearms and Toolmark Examiners Forensic and Archeological Services, Lincoln, Nebraska, completed a sub-report titled, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana* on July 22, 2001. The results of this sub-report are as follow: a numerical breakdown of individual weapons used as well as numbers of casings fired by specific weapons used by the Sioux and other non-reservation warriors. Information on the correct types of weapons used by the soldiers was provided by this study undertaken by Mr. Scott, which is consistent with historical accounts of the ammunition and weapons used by the U.S. military units involved. The results of this study provide the historic community with an excellent resource for Sioux Indian and other non-reservation weapon and ammunition usage in the early 1870's, leading up to the Great Sioux War of 1876 – 1877.

Appendix B: Baker's Battle Participant Lists: The authors have provided an extensive list of the Civilians, Officers and Men of the 2<sup>nd</sup> Cavalry and the 7<sup>th</sup> Infantry and the Sioux and Northern Cheyenne Participants.

Appendix C: The Baker's Battle Participants Bibliography section consists of the following sections: 2<sup>nd</sup> Cavalry Officers, (Companies F, G, H, and L), Seventh Infantry Officers, (Company C, E, G, and I), Other Military or Civilian Participants, and Sioux and Northern Cheyenne Participants.

Appendix D: Tracy's Landing – Historical Perspective: This appendix provides information regarding the field work completed at Tracy's Landing prior to and during the Baker Battle Grant process.

Appendix E: Significance and Preservation of the Baker Battle Site: This appendix summarizes the impact that this battle had on our Nation's history. Included in this section is a comprehensive threat assessment to the preservation of this Battle site.

Appendix F: Baker's Battlefield Photos: This appendix shows key aspects of the Baker Battlefield.

Appendix G: Tracy's Landing Photos: This appendix shows key aspects of the archeological work completed at Tracy's Landing.

Appendix H: Sgt. McClarren Memorial Service Photos: This appendix documents the ceremony for Sgt. McClarren arranged by Harold Hagen and the American Legion.

Appendix I: Captain Ball's Skirmish Line Photos: These photos show the initial survey and plane table mapping of the artifacts found in this portion of the battlefield.

Appendix J: Total Station Survey and Images of Captain Ball's Skirmish Line: The graphics represented in this appendix were completed by Tim Urbaniak. They show the total station survey and mapping of the area known as Captain Ball's Skirmish Line.

Appendix K: Misc. Images: The images shown in this appendix represent many of the officers and enlisted men, instruments used for measuring distances, and locations visited during Baker's expedition.

Appendix L: The Grave at the Site of Major Baker's Battlefield: This appendix has been provided to suggest that a potential site, possibly a grave has been discovered on the Baker's Battlefield. Further exploration of this discovery is suggested. The authors do not at this time care to speculate on the origins of this potential grave site.

Appendix M: Letters supporting the Baker Battle Grant Project: Bill Michael and James Sindelar, site landowners have been extremely supportive of the principal investigators. They have allowed the investigators access to their land so that a thorough understanding of the battle could be completed in report form.

## **V. History of the Battle**

This portion of the report details the events that led up to the battle on the Yellowstone, the fight itself and the ramifications of the battle regarding the non-reservation Sioux and the U.S. military. The battle has been broken down into phases and interpreted using 3D maps in order to give the reader a visual perspective of the events. The sources used in the construction of the timeline are provided. A section relating to the non-reservation Sioux's acquisition of modern firearms and ammunition has been provided due to its relevance to the battle being analyzed in this report.



## **a. Baker's Battle on the Yellowstone, August 14, 1872**

### **Preceding Events**

Prior to the close of the Civil War, the fertile Yellowstone River Valley captured the attention of both the United States and the Teton Sioux. The Tetons were the most populace of The Seven Council Fires of the Sioux nation. Divided into seven bands – the Hunkpapa, the Oglala, the Minneconjou, the Brule, the Sans Arc, the Two Kettle and the Blackfeet – The Teton Sioux spoke a dialect called Lakota and often took that name. This region already served as the mainstay for northwestern Native American tribes, such as the Crow and Blackfeet, who hunted this vast range.

The arrival of the Teton Sioux in western South Dakota around the time of the American Revolution led to extensive intertribal warfare over hunting rights and resulted in the reluctant departure of the Crow from much of the contested area. As the Sioux pushed westward into Wyoming and Montana in the early 19<sup>th</sup> Century, they obtained both guns and horses. As a result the Crow were hard pressed to retain their Montana lands. Allying themselves with the United States Government seemed to be the only option that might allow them to maintain their hunting privileges in the Yellowstone region.

The Sioux and the United States Army had met on the battlefield several times before. First in 1854 with the Grattan Fight, and then in Minnesota, where the Eastern Sioux – the Dakotas and Nakotas fought settlers. They killed eight hundred civilians and over a hundred soldiers and saw 38 of their warriors perish in a public hanging at New Ulm. This disturbance marked the beginning of a six-year war on the prairies and plains. Following this action they were moved to reservations at Crow Creek and into South

Dakota. The Dakotas and Nakotas spread knowledge of their grievances to tribes farther west, contributing to their disaffection. In 1863 and 1864, General Henry Sibley and General Alfred Sully campaigned against the Sioux in North Dakota. Aside from building Fort Sully on the Missouri and thoroughly arousing the tribes in the territory, Sully accomplished little during the first year of the campaign. In 1864, his troops built Forts Rice and Berthold on the Missouri, and Sully defeated the Indians in the Battle of Killdeer Mountain. The Sioux retaliated by attacking Fort Berthold.

Jack McDermott, a noted Indian War Historian stated, “By omitting the action in Dakota, many students of history fail to connect the Minnesota Uprising with confrontations much farther west. Usually these battles and skirmishes are presented as separate wars, arising from local causes. However, by campaigning against the Lakota in North Dakota in an attempt to punish the Dakotas and Nakotas, the army spread war to the West and aroused the most war-like and resistant groups of the Sioux. The Hunkpapa, Sitting Bull, and his followers were now in the mix.”<sup>1</sup>

At the same time, in 1864, Colonel Chivington and his volunteer army initiated years of warfare against the Northern Cheyenne and the Northern Arapaho with their massacre of 250 members of those two tribes at Sand Creek in Colorado Territory. They subsequently joined the Lakota in seeking revenge. The tribes moved north and west, making 1865 a bloody year on the plains. The conflict began with the sacking of Julesburg and continued with pitched battles at Mud Springs and Rock Canyon. The result was the chilling defeats of U.S. Volunteer troops in two late-July battles near present day Casper, Wyoming, the Battle of Red Buttes and the Battle of Platte Bridge.

In retaliation, the U.S. military committed a large contingent of soldiers, under Brigadier General Patrick Conner, to punish the Sioux and their allies. In August and September, 1865 he led a three-pronged attack into the heart of Sioux territory which achieved mixed results. He Failed to seriously threaten the Indians. Conner did achieve one victory over a band of Arapahos on the Tongue River near the present site of Ranchester, Wyoming. This was the situation when vast numbers of Civil War-weary immigrants drove their wagons through the Yellowstone region in search of new beginnings.

Charged with protecting these travelers, the U.S. regulars arrived in force. Of particular note was the arrival of Colonel Henry B. Carrington's 18<sup>th</sup> Infantry regiment in July, 1866. His orders were to revitalize Old Fort Reno on the Powder River and build two new posts, Fort Phil Kearny and Fort C.F. Smith, the first in North Central Wyoming and the second just across the Montana border.

These forts were meant to guard the Bozeman Trail which provided the shortcut route to the gold fields of Western Montana. It unfortunately violated the heart of Lakota territory. (Crow territory, according to the Crow Indians). Colonel Carrington's arrival was not the first occasion in which the United States had shown interest in this specific region. In 1860, Captain William F. Raynold led an expedition into the region despite threats from the Sioux that such an action would not be tolerated, explored the area north of Fort Laramie and east of the Big Horn Mountains, extending to the Yellowstone River Valley.<sup>2</sup>

In the years directly following Conner's expedition, Red Cloud and many of the Sioux bands fought the U.S. intrusion into the Powder and Yellowstone River regions with great

vitality. This seemingly unending warfare was highlighted in 1866-1867 by the Fetterman Fight, the Wagon Box Fight, the Hayfield Fight, and several other skirmishes, which occurred along the Bozeman Trail.

The turbulence caused by the fighting on the trail finally ended with the treaty signing at Fort Laramie in 1868 (Treaty of 1868). The army had decided to withdraw from the Bozeman Trail in order to concentrate its forces to protect the construction of the Union Pacific Railroad to the south. By 1868, the Union Pacific Railroad was approaching the Salt Lake City which provided overland links to Virginia City making the Bozeman Trail obsolete for Montana-bound immigrants.<sup>3</sup>

The new peace settlement outlined the Great Sioux Reservation. The Lakota Sioux were to be located at a series of agencies, most of them neighboring the Missouri River. The boundaries of the Great Sioux Reservation as defined by Article II of the Fort Laramie Treaty of 1868 are as follow:

The United States agrees that the following district of country, to wit, viz: commencing on the east bank of the Missouri river where the 46<sup>th</sup> parallel of north latitude crosses the same, thence along low-water mark down said east bank to a point opposite where the northern line of the State of Nebraska strikes the river, thence west across said river, and along the northern line of Nebraska to the 104<sup>th</sup> degree of longitude west from Greenwich, thence north on said meridian to a point where the 46<sup>th</sup> parallel of north latitude intercepts the same, thence due east along said parallel to the place of beginning; and in addition thereto, all existing reservations of the east bank of said river, shall be and the same is, set apart for the absolute and undisturbed use and occupation of the Indians herein ...<sup>4</sup>

This treaty also alluded to an unceded hunting lands where bands of the Sioux could hunt buffalo and other game. The Fort Laramie Treaty defined this unceded territory as the land lying east of the summits of the Big Horn Mountains and north of the North Platte River. The northern limits were not specified.<sup>5</sup> This vague aspect of the treaty would

cause a great deal of bitterness and turmoil in the following years. The question about the status of the Yellowstone River Valley and its protection as part of the hunting grounds as defined by the Treaty of 1868, is a crucial question that bears on the root causes of the Great Sioux War.

The treaty also contained these clauses in Article 11:

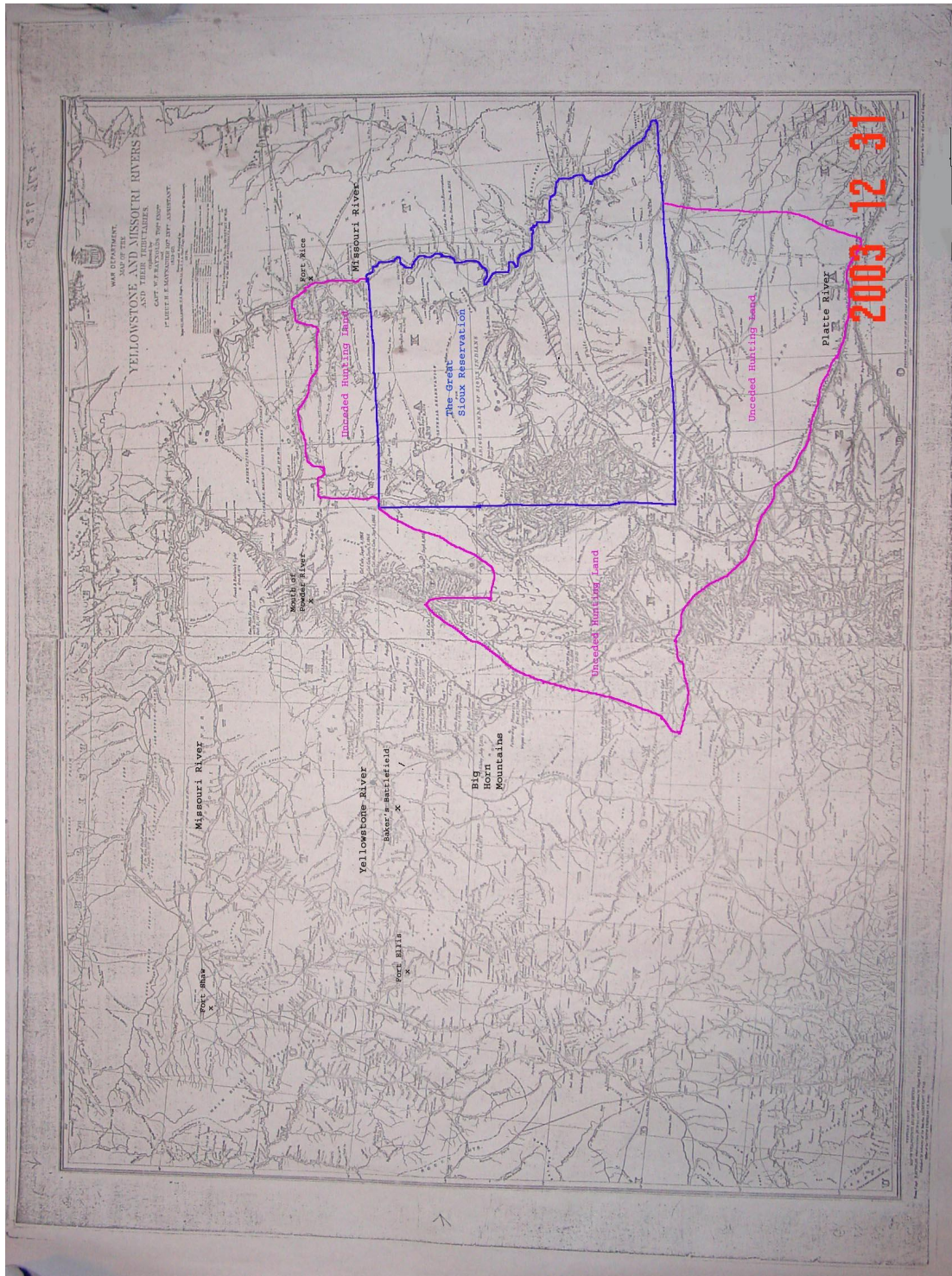
1<sup>st</sup>. That they (the Indians) will withdraw all opposition to the construction of railroads now being built on the plains.

2<sup>nd</sup>. That they will permit the peaceful construction of any railroad not passing over their reservation as herein defined ....

6<sup>th</sup>. They will not in the future object to the construction of railroads, wagon roads, mail stations, or other works of utility or necessity, which may be ordered or permitted by the laws of the United States. But should such roads or other works be constructed on the lands of their reservation the government will pay the tribe whatever amount of damages may be assessed by three disinterested commissioners to be appointed by the President for that purpose, one of said commissioners to be a chief or headman of the tribe.<sup>6</sup>

This appeared to give the U.S. the eventual right to cross the reservation and unceded Indian land. It whetted the appetites of entrepreneurs, especially the railroads. However, the point was mute. The Northern Sioux, especially the powerful Hunkpapas and Minneconjous, considered the area their own, and many of the leaders who lived there had not signed the Treaty of 1868 and they intended to resist U.S. advances. The Northern Sioux clearly considered this land their most prized hunting ground won through hard-fought conflicts with their enemies both Indian and white.

## The Fort Laramie Treaty of 1868 (The Great Sioux Reservation)



This image was taken from the War Department Map of the Yellowstone and Missouri Rivers, revised by Maj. G.I. Gillespie, U.S. Engineer, Brevet Lt. Col. U.S.A. Chief Engineer, Military Division of the Missouri, 1876, United States Military Institute, *Charles H. Springer Papers, 1865-1890*. Treaty boundaries, unceded hunting lands, and major features sketched on original based on observations from Map Titled "Fort Laramie Treaty Land" on the following web site, <http://www.dickshovel.com/1868/html>.

The importance of the Yellowstone Valley to the tribes can not be underestimated. The buffalo were being exterminated in the Sioux and Cheyenne southern hunting ranges near the North Platte River.

Captain W.F. Raynold, as far back as 1860, had ascertained and later described in his 1866 Senate resolution, “that the broad valley of the Yellowstone afforded peculiar facilities for a railroad and it was, moreover, the most direct route to the important region about the Three Forks, with all its agricultural and mineral wealth.”<sup>7</sup>

Wilson Milnor Roberts, Engineer-in-Chief of the Northern Pacific Railway saw the potential spelled out by in the 1866 Senate resolution. Roberts accompanied the N.P.R.R. survey of the Yellowstone Valley in 1871 and saw first hand the value of the Yellowstone Valley. His report of the Surveys in Montana during 1871 detailed the rationale for choosing such a route:

First. – Because a line running nearly west across Dakotah appears to present the shortest route to the Missouri River, passing over a region of better land than any line farther north, offering a chance of excellent alignment and profile, to be obtained with a moderate amount of work.<sup>8</sup>

Secondly. – Because the Yellowstone Valley is more valuable as an agricultural region than any Valley of the Missouri River, affording a route for a line of easy grades and curvature, at less cost per mile, and being better supplied with timber, and with numerous tributary streams of the purest water, besides being a better grazing region.<sup>9</sup>

Thirdly. – Because the line passes naturally from the Yellowstone Valley into the Gallatin Valley, thence into the Jefferson Valley, thence into the Deer Lodge Valley, thence into the Hell Gate Valley, thence into the Clarke’s Fork of Columbia River, these six valleys comprising the best agricultural portions of the Territory of Montana; so after the completion of the railroad through them, it is probable that but a short time will elapse ere they will be populated, and, in connection with the mining interests of the region, create a considerable amount of local trade and travel.<sup>10</sup>



The situation became dangerous in 1871 and 1872 as surveyors for the Northern Pacific Railroad with their army escorts began moving west from Fort Rice (south of present day Bismarck, N.D.) and east from Fort Ellis, Montana Territory (Bozeman, Montana).

While Companies F and L of the Second Cavalry (From Fort Ellis) under the command of Captain Edward Ball escorted a Northern Pacific Railway survey party down the Yellowstone to the Place of Skulls (near present day Billings) in 1871, Sioux frustration and distrust of the whites was obvious to Special Indian Agent Andrew J. Simmons.

Special Indian Agent Simmons was assigned the task of determining the makeup of the non-reservation Sioux and ultimately to negotiate a treaty with the headmen of these bands, most of whom had not signed the Treaty of 1868 which resulted in the creation the Great Sioux Reservation.

While visiting Black Moon and other headmen of the Teton Sioux at Fort Peck in November of 1871, he reported, "There was much excitement, much talk and some preparation for fighting. They wanted to know the object of these soldiers. If they were coming to fight."<sup>11</sup> Agent Simmons explained to the apprehensive Sioux that the soldiers were escorting engineers in search of a route for the railroad, and the soldiers would not harm the Sioux unless provoked.<sup>12</sup> Black Moon commented, "The railroad was being built through their country, how they could live when the game was gone? They would die, and would rather choose to die like brave men fighting."<sup>13</sup> Black Moon went on to say,

This country belongs to them, they had fought the Gros Ventres back. The whites settled in and drove them out of their country below, they were compelled to come here when they could get some game. They crossed the Yellowstone six years ago. They had fought for the country they occupied and it would be difficult to restrain their people from fighting again.<sup>14</sup>



Another chief declared, "He would make war upon the railroad to the last."<sup>15</sup> Agent Simmons, however, managed to maintain the tenuous peace. He persuaded Black Moon to keep his warriors from attacking the soldiers by providing them with small portions of flower, sugar, coffee, and "presents" from Fort Peck and by promising a future meeting for a lasting truce.<sup>16</sup>

Despite Black Moon and Sitting Bull's agreement not to attack Captain Ball's survey escort, the hunting bands (those Sioux choosing not to live on the reservation) and many of the reservation Sioux would no longer wait patiently while the whites continued to intrude upon their hunting grounds.

This statement is evident by the statements of Spotted Eagle, head soldier of the San Arc band of the Sioux who arrived at the Cheyenne River Agency in April of 1872.

He spoke of the Northern Pacific Railroad and said that he knew of the intention to run the road through his country. He stated that neither himself, or any Sioux openly authorized to speak for his people had ever given their consent to this and that they never would give this consent, or listen to any proposition to that effect. He then said that he would fight the railroad people as long as he lived, would tear up the road, and kill its builders.<sup>17</sup>

Ignoring the threat, the U.S. military supplied the Northern Pacific Railway with escorts for the purpose of constructing the railroad through the heart of Sioux territory.

Colonel David S. Stanley in a letter to the Assistant Adjutant General, dated July 30, 1871 alerted that office to the Sioux opposition to the advance of the Railroad through their hunting lands. "When the Northern Pacific Railroad crosses the Missouri, the entire Sioux question will be brought to a head, and in my opinion, will only be solved by an Indian War of some magnitude ...."<sup>18</sup>

Stanley's concerns were not isolated. In September, 1872, Commanding General William T. Sherman wrote to Lieutenant General Philip H. Sheridan, "the army ought to give every possible assistance, as it will help to bring the Indian problem to a final solution."<sup>19</sup>

That same year, officials of the Indian Bureau acknowledged that the new railroad line "would solve the great Sioux problem and serve as part of a great corral for that warlike tribe."<sup>20</sup> The U.S. military leaders as well as the Indian Bureau officials understood that the construction of the railroad through the Sioux hunting grounds would seriously deplete herds of buffalo and other game, thus starving the Indians into submission.

These officials also clearly understood that the construction of the railroad in Sioux hunting grounds would not only have a grave impact on the Indian's already depleted food supply; but more importantly the railroad would make it possible to bring troops and supplies into this area should trouble occur.

When Colonel John Gibbon ordered the Second Cavalry and Seventh Infantry under Major Eugene M. Baker to prepare for a survey expedition into the Yellowstone River Valley, there was reason to assume that the Sioux, under Black Moon, would make good on their threats to kill all who trespassed on their buffalo range.<sup>21</sup>

### **Major Baker's Yellowstone Expedition**

Major Baker, the Commander of Fort Ellis was ordered to assemble his escort for the Northern Pacific Railroad survey team. His "Report of Escort to the Surveying Party of N.P.R.R.", dated July 27, 1872, noted the composition of his troops: four companies of

the Second Cavalry (Companies F, G, H, and L) and four companies of the Seventh Infantry (Companies C, E, G, and I).<sup>22</sup> The entire command consisted of 372 soldiers present and prepared for duty.



**This photo of Major Eugene M. Baker and his officers was taken at Fort Ellis, Montana Territory, circa 1871 by W.H. Jackson. Courtesy of Montana Historical Society, Helena, MT.**

According to a letter forwarded to the Headquarters of the Department of Dakota from Fort Ellis dated July 28, 1872, “the number of soldiers present for duty was wrong by seven men. Three from casualties, since July 27, and the other four by unknown causes”.<sup>23</sup> In addition to the four companies of the Seventh Infantry from Ft. Shaw and four companies of the Second Cavalry from Fort Ellis, the expedition included 30 armed citizens and 20 engineers from the surveying party. The survey party consisted of 2 principal assistants in charge of the compass and level. They were joined by the rodmen, chainmen, and others under the leadership of Chief Engineer J. A. Hayden. Major J. W. Barlow, an army engineer assigned to the survey expedition was ordered to keep a journal of the progress during the expedition.<sup>24</sup> Two ambulances and sixty-five wagons, carrying rations for 105 days for the men and 35 days for horses under Wagon Master Paul McCormick also accompanied this survey.<sup>25</sup>



**Major John Whitney Barlow, shown above with sword in left hand. From: Francis T. Miller, *the Photographic History of the Civil War* (New York, 1911). Courtesy of Brian Pohanka and James Brust.**

According to Engineer Barlow, “Preparations for the movement were completed on July 26, 1872, and on the next day the infantry and wagon train left Fort Ellis, the cavalry overtaking them on the 28<sup>th</sup>.”<sup>26</sup> Major Baker’s command followed the line surveyed the year before by Captain Ball’s party. From Ft. Ellis, the expedition crossed the Bozeman Pass and traveled east along the Yellowstone valley.<sup>27</sup>



*Paul M. McCormick*

**Paul McCormick was the wagon master for Major Baker's Expedition of 1872.  
Courtesy of the Peter Yegen Museum, Billings, MT.**

Barlow in his journal noted, "The Crow Indians were encamped near their agency (near Livingston Montana), along the survey route, and an invitation was given by Major Baker for some of their young men to accompany the expedition in the capacity of scouts. None, however, accepted. They stated that they would like to go and fight the Sioux, but not to travel peacefully through their country, and also intimated that we would find bad friends down there."<sup>28</sup> "Mitch Buoyer, a half-breed Sioux (though living among the Crows at their agency,) was engaged as guide to the expedition."<sup>29</sup> Lt. Joshua W. Jacobs, 7<sup>th</sup> infantry, the regimental quartermaster for the expedition, hired Mitch Boyer at one hundred dollars a month from August 1 to September 30.<sup>30</sup> A small group of citizens, including Tom LeForge and George Herendeen joined the expedition.<sup>31</sup> LeForge and Herendeen, both off and on employees at the Crow Agency would serve as guides to the U.S. military during the famous Sioux Campaign of 1876 – 1877. LeForge would write about his exploits at Baker's battle and both these men gave accounts of their actions during the later Sioux campaign.<sup>32</sup> LeForge's first wife was a Crow woman. Following

her death he married Bouyer's wife some time after his death at the battle of the Little Bighorn.<sup>33</sup>



**Mitch Bouyer, Expedition Guide**  
Courtesy of the Southwest Parks and Monuments Association

Major Baker's party journeyed uneventfully through the area between the Yellowstone and Musselshell Rivers until August 12. 2<sup>nd</sup> Lt. McClernand, a young officer of the 2<sup>nd</sup> Cavalry recollected that on that day, numerous buffalo were seen along the line of our march, and a large herd was driven through the column and a general attack made on them by the officers and the soldiers.<sup>34</sup> McClernand recalled that a number of soldiers gave chase with rifles and pistols chasing the animals for at least four miles and killing four. The fourth buffalo, wounded by a pistol bullet, charged 2<sup>nd</sup> Lieutenant McClernand after he was trying to finish him off from a safe distance on foot but he managed to get back into the saddle and escape the infuriated bull.<sup>35</sup>



**This photo shows a 19<sup>th</sup> century odometer. This type of instrument was used by the military expedition on the Yellowstone in the summer of 1872. Dept. of the Interior, National Park Service, Yellowstone National Park**

On August 13, the expedition made no march; however, Barlow noted, “the survey party descended the river seven miles to a point where the survey of last year terminated.

Having found the last stake, the engineers commenced work, and carried their line upon the broad terrace next above the river bottom, and continued it to a point nearly opposite this camp.”<sup>36</sup> Barlow described the camp in his journal as,

... exceedingly pleasant and quite picturesque”. It is entirely surrounded by trees, among which is a rank growth of willow and rose-bushes. The blossoms of the latter have fallen some time since, leaving almost as beautiful a display of bright red berries in their stead ... Close to the camp rushes the river in a perfect torrent, washing away the soft alluvial bottom with great rapidity, while evidence of its former power is seen in the huge trees that lie stranded on the small island in its midst. The stream here is about two hundred yards wide. The opposite shore is a bold, rocky bluff, perhaps eighty feet in height, worn by the element into various shapes, here and there resembling battlements of castles of feudal ages.<sup>37</sup>



**Brigadier General Edward John McClernand (Approximately 40 years after the young 2<sup>nd</sup> Lieutenant fought the Sioux on the Yellowstone River)  
Courtesy of the Library of Congress**

Sergeant Fred W. Miscer, Company G, 7<sup>th</sup> U.S. Infantry, commented, "... the 13<sup>th</sup>, was spent by the command in trout fishing and necessary laundry labor, the river affording the best facilities for that, and the day being partially clear and very warm, the thermometer reaching 90 degrees."<sup>38</sup>





**Major Baker's Camp on the Yellowstone River, near present-day Billings, Montana.  
Completed by Major John W. Barlow accompanying the survey**

While Major Baker's expedition traveled through the Yellowstone region, approximately 2000 lodges of the Minneconjou, San Arc, Oglala, Brule, and Hunkpapa Sioux, along with a few Northern Cheyenne and Northern Arapaho warriors, were encamped at the big bend of the Powder River from which 1400 mounted warriors departed to raid their enemies, the Crow.<sup>39</sup> This vast warparty would soon become alerted to the soldiers in the Yellowstone region.

According to Sitting Bull's nephew, Old Bull, Sitting Bull led the Hunkpapa, Steam Boat led the Minneconjou; Crazy Horse led the Oglala and Circling Bear led the San Arcs.<sup>40</sup>

U.S. Special Indian Agent Theodore McKones, Cheyenne River Indian Agency, in a letter to the Commissioner of Indian Affairs, further detailed the whereabouts of the non-reservation Sioux during the summer of 1872.

The Bear Butte at the foot of the Black Hills, near the Cheyenne River, is fixed upon by the various bands of Sioux, as their rendezvous, from which place, most of the “hostiles” visiting this Agency, probably will soon depart. They will hunt the small game (deer, etc.) and recuperate their horses, preparatory for an attack upon the Crow Indians, in retaliation for some recent injuries. After which, they intend to watch the progress of the N.P. Railroad, and probably will kill stragglers and steal stock from the contractors. The plunder they calculate (and rightly enough) will allure the young men, and incite them to action and thus inaugurate what they term war.<sup>41</sup>



**This is a view of the Yellowstone River directly behind Major Baker’s Camp. The men of the expedition fished and did laundry near here. Courtesy of David Eckroth**

According to Crow interpreter and military guide, Thomas LeForge, “While encamped next to the Yellowstone River, near the present town of Billings, Major Baker summoned him and others of his group to his tent where they were invited to smoke with him and share any knowledge of the hostiles. They told the Major that while hunting the previous day they had seen plenty of Indian sign.”<sup>42</sup> It was related to the Major that on August 12, while the companies camped about 10 miles north of where Billings now lay,

Joe Hozay – a half-breed, and two cavalymen went out hunting. At about noon they saw a band of buffalo on Alkali Creek, and before going after them concluded to rest their horses and eat lunch. While resting, a horse without any rope or saddle trotted up to their horses, which were picketed, and ran around them. Joe Hozay lassoed the strange horse, and exclaimed, “It is a Sioux horse”.

This immediately put them on their guard. The Sioux horse incident was the first sign that there were Sioux in the vicinity.<sup>43</sup>



**Thomas H. LeForge, also known to the Crow as ‘Eet-see-dahkh-in-dush’ or Horse Rider  
Courtesy of Peter Yegen Museum, Billings, MT.**

Lieutenant Bradley, the amateur historian of the Seventh Infantry, who was not on this expedition but later interviewed officers who were there, noted that “the presence of two or three Indian dogs had also excited some apprehension that there were Indians around, but the general feeling was of confidence and security.”<sup>44</sup>

Major Baker, with his force encamped on ground favorable for defense, was not overly concerned by LeForge’s report of hostiles nearby.<sup>45</sup> In addition, Captain Ball had traveled without incident to the Place of Skulls, a location in the vicinity of Baker’s campsite, with only two companies of cavalry only a year before. Major Baker, with over 400-armed men at his disposal, must have felt that no Indians would dare to challenge such a large force.



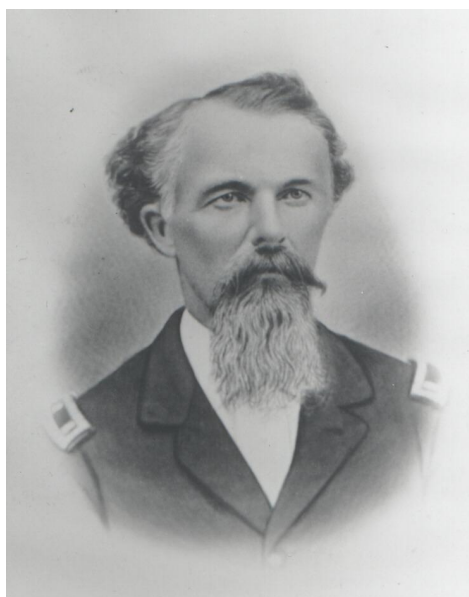
**Captain Edward Ball, Company H, 2<sup>nd</sup> Cavalry, Fort Ellis, Montana Territory circa 1871  
Courtesy of Montana Historical Society, Helena, Montana**

Lt. Bradley stated, “to have rendered this position wholly secure it would have been necessary so as to guard the slough that it could not be occupied by the enemy as a preliminary to their attack; but this was not done.”<sup>46</sup> However, the standard number of sentries was deployed for nightly protection during that night prior to the attack. In defense of Major Baker, to properly guard the slough and the amount of land it surrounded would have taken the entire command. Major Baker assigned his Officer of the Guard (1<sup>st</sup> Lieutenant Logan) and Officer of the Day (Captain Thompson) their duties and settled into camp for an evening of poker and drinking with some of his officers, confident that his camp was secure for the night.



**Captain Lewis Cass Thompson, 2<sup>nd</sup> Cavalry**  
Courtesy of Montana Historical Society, Helena, Montana

At least one of Major Baker's subordinates did not share his sense of security. Lieutenant William Logan of the Seventh Infantry, Officer of the Guard, in charge of 26 men, both cavalry and infantry, had a premonition of the attack and did all that a vigilant Officer of the Guard could do to avert surprise.<sup>47</sup>



**1<sup>st</sup> Lt. William Logan, 7<sup>th</sup> Infantry**  
Courtesy of Montana Historical Society, Helena, Montana

Logan posted his guard on the flank of the camp, away from the river and some three hundred yards distance there from his sentinels covering the camp as far as possible while herds of beef cattle and mules of the government and contractor's train which had been left out to graze and held well under cover of the guard upon the island already described, with a squad of herders over them to prevent straggling or stampede. The horses of the cavalry were tied up within the limits of the camp. Sometime near 3 A.M., Lieutenant Logan had made his rounds of the sentinels, and found all quiet.<sup>48</sup>

### **The Battle on the Yellowstone (August 14, 1872)**

The warparty raised at the mouth of the Powder River discovered Major Baker's party traveling down the north side of the Yellowstone River, near Pryor Creek. The Lakota, Northern Arapaho, and Northern Cheyenne warriors occupied the bluffs overlooking Major Baker's camp. From the bluffs, they studied the movements and sounds made by the soldiers all of which revealed the layout and extent of the military encampment.



**This view taken from Indian Position # 4 (See Archeology at Baker's Battle, Section VI) overlooks the U.S. military Camp located behind the trees.  
Courtesy of David Eckroth**

The Sioux leaders directed their *akicita* (police force) to hold back the younger warriors from making any premature strikes on the soldiers' camp, but the presence of cattle, mules, and horses in such large numbers, proved far too enticing for the young warriors who yearned for prestige and glory.

Some of these young warriors evaded the *akicita* and stealthily crept into the soldier camp. Unaware of the movements of the young warriors, the chiefs discussed their options on dealing with these intruders.<sup>49</sup> Old Bull, recollected that Crawler, Running Enemy, and In-the Front had captured two horses and three mules from the soldiers' camp during the night.<sup>50</sup>

According to Barlow,

The Indians fell upon them early in the fight and succeeded in capturing a fine rifle, and some ammunition from one of the tents. Near this point an Indian was shot by one of the citizens (Jack Gorman), and afterwards killed by a soldier of Captain Lewis C. Thompson's company. [Captain Thompson was the Officer of the Day] The Indian's body was dragged within our lines.<sup>51</sup>



Sergeant Miscer recalled,

But one dead Indian fell into our hands ... Mounted on a white pony, he charged toward the cavalry companies, and was shot through the thigh by Serg't (actually Private) Wilkinson, Co. G, 2<sup>nd</sup> U.S. Cavalry, while a shot fired by Jack Gorman pierced his brain ... Clothed in a cost-off officers dress coat probably obtained at some post with headdress reaching almost to his heels, and armed with two good Colts, caliber .44, he presented a warlike aspect.<sup>52</sup>

Sergeant John W. Ponsford, Company F, 2<sup>nd</sup> U.S. Cavalry, noted,

There were some camp followers in the command, prospectors and wolfers, who made their beds and slept outside against a tree, but his cartridges and revolver were in the blanket with him. During the night (about 2:45 a.m.) he was lying awake and saw what he thought was a bunch of feathers moving and watching for a second or two found that the feathers had an Indian's head in them. He cocked his revolver and without moving his body shot the Indian through the head. The report of his pistol awoke the camp, and the Indians commenced shooting at the soldiers but shot high.<sup>53</sup>

Ponsford recalled, " ... that the attackers attempted to stampede the remaining stock, but the herders managed to get the animals into the corral formed by the wagon train."<sup>54</sup>

Meanwhile, the guards opened fire on the intruders. "Cries of 'Indians, here they come!' were heard on all sides as officers and men were awakened and sprang to arms."<sup>55</sup>

Sitting Bull, Black Moon, and other sub-chiefs, realizing that the young warriors were committed to fighting the soldiers, decided to join in the attack. During the initial raid these warriors captured 16 beef cattle and four mules from the command.<sup>56</sup>

1<sup>st</sup> Lieutenant Logan's initiative allowed him to engage the warriors early in the attack. His sentinels, consisting of infantry armed with Springfield rifles (Model's 1866 and 1868) and cavalry armed with Sharps carbines (Model 1868 conversion), opened fire on the stealthily approaching warriors, forcing many out of the slough and into the open ground beyond.<sup>57</sup>



Lieutenant Jacobs and the civilian party took up a defensive position to the left of Lieutenant Logan's guard.<sup>58</sup> Captain Charles C. Rawn, second in command, promptly alerted the infantry companies and formed them on color lines (company formations formed on the company guideon).

Having ordered the Infantry company commanders to position their troops, Rawn promptly sought to alert Major Baker of the situation. About that time Baker ran out of his tent yelling, "Stop that shooting", "Stop that shooting." Rawn, doubting Baker's sobriety and realizing the camp was compromised, replied "No! Dammed Indian came over one of our tent ropes."<sup>59</sup>



**Lieutenant Joshua West Jacobs, 7<sup>th</sup> Infantry**  
Courtesy of Ed Italo Collection at U.S. Army Military History Institute,  
Carlisle, Pennsylvania

Whether or not Major Baker had been drinking, he was still capable of giving orders. Being skeptical of the attack, and of the opinion that a frightened sentry had mistakenly raised the alarm, Baker dispatched Captain Thompson to assess the situation.

Captain Rawn returned to his command and deployed Company E Infantry under Lieutenant Reed to the far right of the perimeter with the Yellowstone River on their right flank. Company G, under Captain Browning was ordered to assume a position on the left

of Company E. These two companies (Companies E and G) deployed as skirmishers in the tall grass on the right side of the camp facing the mass of cottonwoods and willows from which the initial raid had come. Companies C and I were ordered to lie down in the cover of the tall grass, while awaiting orders.<sup>60</sup>

When Captain Thompson reported the attack real, Major Baker ordered a detail of 30 cavalrymen under Lieutenant Samuel T. Hamilton to reinforce Lieutenant Logan's position. He then sent orders to Captain Rawn to deploy his men.<sup>61</sup> Captain Rawn having already positioned Companies E and G, now deployed Company C under Lt. Quinton to the left of Company G. Captain Rawn's own Company I was positioned to the left of Company C.<sup>62</sup> By 3:45, Captain Rawn had completed the deployment of the Infantry, which covered about half the front, the citizens and cavalry continued the line to the left until these Companies enveloped the camp. This deployment was affected within about half an hour after the beginning of the attack."<sup>63</sup>

Sergeant Mischer, Company G, 7<sup>th</sup> Infantry, recalled Captain Rawn's deployment of his men,

Capt. Rawn, assuming charge of the infantry adopted a plan on the left that proved a good one and showed that he had knowledge of his business. Giving orders to refrain from firing, he marched these companies to a point about 25 yards from camp and gave the command to lie down. Each remained in this position for what seemed like an age, but was probably not over 15 minutes. During this time the glare of the Indian gunfire. They fired high and the war hoops plainly showed that a good sized band were before us, and that we were outnumbered four or five to one. Their aim was wild, as they fired over us every shot, and they showed no disposition to charge. As left guide the writer lay on the left of his company and frequently the balls would throw grass and mud into his face, as was noticed by Capt. Browning lying beside me, who remarked that they seemed to be firing lower.<sup>64</sup>

At this early stage of the battle, the Sioux were a serious threat to the safety of the

military camp. A group of attacking warriors had succeeded in capturing the contents of several civilian tents on the western side but most warriors were acting individually when capturing horses, mules, and other items.

Evidence of this portion of the fight was found in the plowed fields adjacent to the land formation known as Dover's Island now surrounded by the Yellowstone River. .50/70 Bar Anvil and Benet cartridge casings, along with .56/50 rimfire and .44 rimfire cartridge casings found indicate that Springfield model 1866 and 1868 rifles, Henry rifles and Sharps and Spencer carbines were used in this area. A small number of .44 and .50 caliber bullets and round balls were found impacted in this area indicative of the ammunition used by the Sioux and their allies during this battle. (See Section VI: Archeology at Baker's Battlefield for more detailed information regarding evidence found at this position.)<sup>65</sup>

Richard Davis, one of the citizen employees was guarding the quartermaster herd and helped drive in the mules, but he and his party could not stop the Indians from getting away with the steers.<sup>66</sup> Matt Carroll, proprietor of the E. C. Maclay and Co. freighting firm recalled, "They tried hard to get our mules, which were out some 300 yards from the corral, but our herders and four cavalymen, who were on picket at the time, held out against heavy fire until the officer of the guard, Lt. Logan, with his guard came to the rescue and got all the mules safe and sound into the corral".<sup>67</sup>

Capt. Rawn gave the order for the infantry companies to put down a concentrated fire on the warriors in the slough and timbers at about 4 a.m.

These men rose and poured volley after volley into them; men were kept busy bringing out ammunition and the concentrated fire of both cavalry and infantry were terrific. Every man stood his post, and the order was finally given to charge the bushes and slough. This was done with cheers and yells by the troops, and the Indians weakened, retreated to the bottomland beyond.<sup>68</sup>

Early in the engagement, this sense of individuality and lack of overall cohesion on the part of the warriors enabled the soldiers to push these attackers out of the slough. The element of darkness, initially a friend to the warriors, suddenly became their enemy, as they were unaware that the soldiers were already in position to meet their onslaught. The Indians could not hope to defeat the soldiers who fired in unison, advanced in formation, and fought as companies, especially when they had completed the occupation of the defensive terrain of the slough and timbers.

The Indians had captured the beef herd. They recovered from the initial devastation of the guards' rifle fire, and continued their attack. The soldiers were beginning to occupy the slough and timbers but not without a cost. This advance was met with resistance and the U.S. soldiers suffered their first casualties.

Private Joseph A. Widmer, Company G, 7<sup>th</sup> Infantry recalled, "The first man killed was Sergeant McClarend (sic), shot between both eyes a perfect center. He never knew what hit him."<sup>69</sup> Sergeant Mischer recalled, "At this time, Serg't John McClarren, Co. C. being away from his position, evidently started to join his command, thinking to do so by a few steps, and as he arose and passed me he was struck by a ball that passed through his head between the eyes, killing him instantly."<sup>70</sup>

The soldiers now took positions behind cottonwoods and bushes, and as Sergeant Mischer Company G, 7<sup>th</sup> Infantry recalled,

...fought them for 20 minutes or more, using tree-trunk for a gun-rest and shelter. Many wounded Indians had reached the edge of the timber, and the main body stopped firing, devoting their energies to carrying off their wounded, as to leave them in the hands of the enemy was a deep disgrace; and they displayed great skill in horsemanship, as they would throw themselves onto the pony's side, showing only one leg – a small mark at 300 to 400 yards, while others quickly dismounted and threw a wounded brother on to the saddle. Soon after they retreated to the foothills, and for two hours could be seen forming in line, apparently, and spreading into column not over three-quarters of a mile away.<sup>71</sup>

During this time a civilian participant was severely wounded by the attackers. Widmer recalled, "Jack Gorman (sic) was shot in the shoulder close to the neck while lying down on the ground, the bullet going in the spine." Widmer must have meant William Francis, a civilian, who according to the physician's report, suffered that mortal wound.<sup>72</sup>

Soon after the occupation of the slough and timbers, "Lieutenant Reed's Company E, discovered the presence of Indians in the willows barely visible to his front and poured three volleys into them, causing these Indians to take full retreat."<sup>73</sup> Not long after Lieutenant Reed's action, the Indians were retreating towards the safety of the bluffs, passing along the lines of Companies E, G, and I.<sup>74</sup> The momentum of the battle shifted from a short to long-range conflict.

Sometime between 5:00 and 5:30 a.m., Major Baker's command had gained full control over the timbers and slough, and the Indians had been pushed back to the protection of the bluffs. The soldiers, lying in their defensive positions, must have felt a degree of comfort knowing that their Springfield's, with an effective range of 300 to 500 yards, were far superior to the repeating rifles they heard firing at them from the bluffs.

Even with an advantage in weaponry, Baker's command still faced a numerically superior enemy which held the high terrain, and had better mobility. The advantage of mobility allowed the warriors to easily move from one location to another. By controlling the

terrain behind the bluffs as well as the high ground, warriors could ride from one position to another and still remain a long distance from the soldiers. The Indian force was large enough to defend itself from any counter attack attempted by the soldiers. They possessed the firepower and numbers to inflict heavy casualties if their positions were assaulted.

Although the Indians were not altogether accurate in their firing, archeological evidence suggests that their accuracy was efficient enough to cause serious concern, and the resounding echo of their guns off the bluffs served to intimidate the soldiers.<sup>75</sup>

Baker chose to keep his troops in position and engage the warriors at a long distance using his force's advantage of more effective, long range, firepower. Any alternative courses of action, such as crossing the 400 or so yards of open terrain to engage the enemy, would have been foolhardy and could have resulted in an unacceptable loss of men. For the next few hours, the soldiers remained in place, firing at any warriors presenting themselves as targets.

The Sioux and their allies, with a limited supply of ammunition, continued a slow but steady rate of fire into Baker's camp. These warriors were primarily armed with Henry and Winchester .44 caliber repeaters, which had an effective range of 300 yards.

However, in addition to these repeaters, the Indians also possessed a diverse array of other weaponry, including Spencers, Springfields, Sharps, Ballards, Smith and Wessons, trade muskets, and Colt and Remington revolvers as well.<sup>76</sup> The specific weaponry used by the Sioux and their allies had been determined by a careful study of the cartridge casings and bullets in a process known as firearm identification analysis completed at

Lincoln, Nebraska by Douglas D. Scott, July 22, 2001.(See Appendix A for more detailed information regarding weaponry used by the Sioux and their allies.)<sup>77</sup>

With the slough and timbers now securely in the soldiers' possession, Captain Ball took on the task of eliminating the Sioux presence from the southwest portion of the bluffs, which overlook Major Baker's defensive positions. Captain Ball ordered a detachment of his company H, 2<sup>nd</sup> Cavalry, (artifacts support about thirty soldiers) dismounted to advance through the timbers and up the bluffs to the left of Major Baker's camp in order to address this concern.<sup>78</sup>



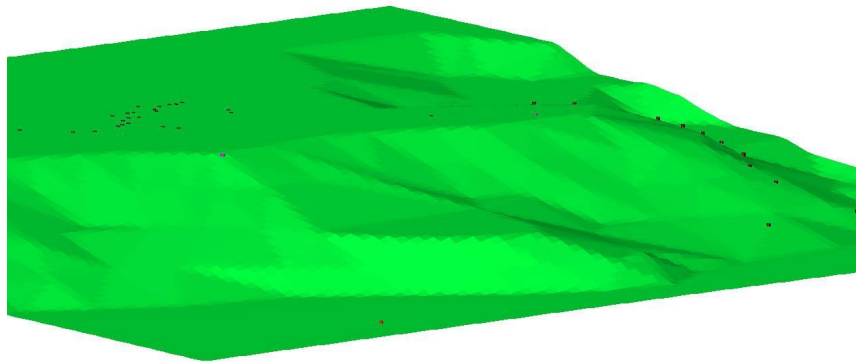
**This map shows the occupation of the slough and timbers by the civilians and soldiers of the 2<sup>nd</sup> Cavalry, and 7<sup>th</sup> Infantry. The Indian Positions are located in the bluffs surrounding the soldiers.  
Courtesy Mel Walker**

Captain Ball, while advancing up the bluffs, positioned approximately 10 men on his right flank along a ridge line overlooking the battlefield. These men were deployed along the ridge to keep the avenue of approach open for the approximately 20 men of Company H, who continued to advance to the top of the hill. Once the crest was occupied, Ball's men continued to a position nearly 200 feet north of the crest, which afforded adequate cover. Here, these men formed a skirmish line which stretched 250 feet (approximately 20 feet from each other). They fired a volley at the Sioux and their allies. This movement served to drive the Indians away from their westernmost positions, allowing Major Baker the leisure to concentrate his attention on the Sioux positioned in the bluffs to the front and right of his force.<sup>79</sup>



**This photo was taken from the avenue of approach to Captain Ball's Skirmish Line. The slough and timbers seen in the background were occupied by Major Baker's soldiers. Captain Ball, Company H, 2<sup>nd</sup> Cavalry, deployed at least 10 men behind the crest of this hill.  
Courtesy Tim Urbaniak**





**This 3D image shows Captain Ball's deployment of flankers (right portion of image) and the final skirmish line (top left portion of image) located west of Major Baker's camp and the soldier positions in the skirmish line.  
Courtesy of Tim Urbaniak**

About the same time that Company H pushed up the bluffs to the left of Major Baker's camp, approximately 15 men of Company F, 2<sup>nd</sup> Cavalry under Lt. Frank Grugan mounted and rode forward in an attempt to push the Indians away from the bluffs to his front. Grugan's men made it halfway across the open field, then returned to the safety of the timbers.<sup>80</sup> Grugan upon reaching his furthest vantage point, probably saw large number of warriors behind the ridge and turned back. He accomplished little, but lost no lives. The Indian Position that Grugan saw was the largest on the field of battle. Behind the bluffs were at least 45 warriors armed mostly with Henry rifles and a few armed with Spencers, Springfields and a variety of other firearms.<sup>81</sup>



**1<sup>st</sup> Lt. Frank C. Grugan, Company F, 2<sup>nd</sup> Cavalry, Fort Ellis, circa 1871**  
Courtesy of Montana Historical Society, Helena, Montana

Sergeant Miscer recalled this incident,

Several Indians made dashes down from two points of the bench daring the soldiers to come out in they open and kept it up until one of them got shot. About this time a call was made for 20 volunteers to make a rush on to the bench to find out the number of Indians. They made the dash and while there the Indians made a dash from each point of the bench, trying to cut off those 20 men from the main command, but the move was seen by those in camp and they rushed out on foot and drove them back while the skirmishers returned. The 20 men who volunteered reported from 1,200 to 1,500 warriors.<sup>82</sup>

By 5:45 a.m., shortly after sunrise, the Sioux and their allies chose to engage in dare rides

(Sioux or allied warriors would ride out in front of the soldiers and dash back to the safety of the bluffs.)

2<sup>nd</sup> Lieutenant Edward J. McClermand, described these dare rides from his position in the cavalry line,

The savages, dashing about on their ponies in the immediate front, kept up an unearthly and diabolical noise, but as it grew brighter they retired to the bluffs. ... Occasionally a daring warrior would dash down from the hills and ride his pony at full speed along our front. I do not recall that any were killed, but several were wounded. One pony was killed; his rider was picked up by two braves dashing along in rear, and by them carried away, one on either side of the dismounted warrior.<sup>83</sup>

Whitebull, a Minneconjou Lakota recalled that Long Holy, a Sioux Medicine Man planned to display his power.<sup>84</sup> Long Holy boasted, “Just after sunrise I am going to make these men bullet proof.”<sup>85</sup> The warriors were White Bull, Bear Loves, White-Horn, Little Bull, Leading-Him, Takes-the-Bread and Long Holy, who subsequently engaged in dare rides in full view of the soldiers.<sup>86</sup>

Crazy Horse, an up and coming Oglala warrior, who in the not so distant future would arguably become the greatest Lakota warrior, also engaged in these acts of bravery. He encouraged other warriors to perform dare rides, thus carrying on the battle despite their withdrawal from the slough and timbers.<sup>87</sup> Crazy Horse impressed many young warriors with his amazing feats that day.<sup>88</sup>



**Whitebull, a Minneconjou Sioux warrior participated in the dare rides during Baker's Battle on the Yellowstone, August 14, 1872. Courtesy of the Little Bighorn Battlefield National Monument/NPS**

By their second ride past the soldiers, Long Holy, Leading-Him, Takes-the-Bread, and White Horn had been wounded by rifle fire.<sup>89</sup> Sitting Bull tried to assert his influence and rode onto the prairie. He yelled at Long Holy and his warriors to stop because too many warriors were being wounded.<sup>90</sup>

For a time the Indians halted the dare runs and just engaged in firing at the soldiers from their protected positions in the bluffs.<sup>91</sup> However, some of the more courageous warriors began to stand in full view of the soldiers while others ignored Sitting Bull's demands, galloped into the open in front of the soldier's lines, then returned to the safety of the bluffs, dodging rifle and carbine fire.<sup>92</sup> The locations of a few .44 caliber cartridge casings found at Indian Positions # 4, 5 and 6 indicate the exposure of certain warriors. Of specific note is one cluster of .44 cartridge casings far in front of the safety of Indian Position # 4, in full view of opposing fire.<sup>93</sup>

Sitting Bull, unable to control the actions of the young braves or to stop the waste of precious ammunition, knew he had to do something extraordinary to get the warrior's obedience. He decided to hold a smoking party on the field of battle.

He descended from the bluffs onto the plains in full view of the soldiers. According to his nephew, White Bull, "Sitting Bull lay down his gun and quiver, carrying only his long narrow tobacco-pouch, with a pipestem protruding from its mouth, walked coolly out in front of the Indian line ... sat down on the grass a hundred yards in front of the Indian line, right on the open prairie, in plain sight of the firing soldiers, ... There he got out his flint and steel, struck fire, lighted his pipe, and began to puff away in his usual leisurely fashion."<sup>94</sup>

Any warriors possessing enough bravery were invited to smoke with him. White Bull, Gets-the-best-of-Them, and two Cheyenne warriors accepted the invitation in the open field.<sup>95</sup>

Sitting in a row as bullets screamed overhead and tore into the grass nearby, these warriors shared the pipe.<sup>96</sup> When the pipe was empty, Sitting Bull, "got up slowly and sauntered back to the Indian line."<sup>97</sup> "It was the bravest thing Sitting Bull had ever done.

It was not a coup, of course, but it was braver than any coup.”<sup>98</sup> Sitting Bull, on returning to the bluffs, took up his weapons, mounted, and called out, “That’s enough! We must stop! That’s enough!”<sup>99</sup> White Bull recounted,

Crazy Horse, however, was unwilling to stop fighting. So he and White Bull rode one more dare ride. The soldiers’ rifle fire dropped Crazy Horse’s pony. Crazy Horse, unhurt, jumped up and ran back to the safety of the bluffs. White Bull and his horse were untouched.<sup>100</sup>



**Sitting Bull**

**Courtesy of Montana Historical Society, Helena MT.**

Not long after Crazy Horse’s final dare ride, the warriors withdrew from the field of battle and headed for their camp near the Big Bend of the Yellowstone. The soldiers remained cautious until nearly noon, when a reconnaissance was made by Captain Ball’s company of cavalry. They verified that the Indians had withdrawn.<sup>101</sup>

### **Aftermath of the Battle**

Having withdrawn, the Indians proceeded to cross the Yellowstone River to the south and east of Pryor Creek (A tributary of the Yellowstone River, East of Billings). From there they camped near the Mouth of the Big Horn and after a few days moved their camp to the Little Powder River.<sup>102</sup>

The soldiers tending to their dead and wounded in the hours following the battle. The

injured soldiers and civilians included the following: Private Thomas O'Malley, E Co., Seventh Infantry, treated for a conical bullet wound in the thigh; Private Able Cox, F Co., Second Cavalry, treated for a conical bullet wound that penetrated his abdomen; Private John Ward, L Co., Second Cavalry, treated for a conical bullet wound to the head; Sergeant James McClarren, C Co., Seventh Infantry, killed instantly from a conical bullet wound to the head; and Citizen William Francis, treated for a conical bullet wound to his shoulder and spine (He died a few days later).<sup>103</sup>

Private Widmer recalled, "When we left this camp, the officers buried Sergeant McClarren where the campfire had been, and covered it with ashes so the Indians could not exhume him. They took a triangulation from the river bank to the grave in the event that his relatives would wish to exhume the body and take it for burial elsewhere."<sup>104</sup> In order to further conceal the grave, the wagons were driven back and forth over the site.<sup>105</sup> By 2:00 p.m., the surveyors had again moved on under escort of the soldiers.

Captain Boyd, Seventeenth Infantry, Post Commander of the Cheyenne Agency reported that the Sioux, Northern Cheyenne, and Northern Arapaho casualties included at least one Sioux killed and ten severely wounded, most of them mortally; they also had a considerable number of horses killed.<sup>106</sup> Boyd added that Spotted Eagle had been slightly wounded, and his horse was killed in the fight on the Yellowstone. Major Baker, in a letter dated October 19, 1872, reported that two Indian bodies and fourteen dead ponies were found on the field.<sup>107</sup> Losses among the Northern Cheyenne and Arapaho are not known.



**Spotted Eagle**  
Courtesy of Montana Historical Society, Helena MT.

Major Baker's and Captain Boyd's reports of the Indian casualties nearly match Black Moon's account of Indian losses. Black Moon, while meeting with Special Indian Agent

A.J. Simmons shortly after the battle, gave the following account of Indian casualties at the fight on the Yellowstone.

There were two Brules killed and a great many wounded, that Spotted Tail's brother, "Hawk Dog", was wounded in the fight and died after getting back to camp, that the other one killed was the Lame Deer's nephew, a Minneconjou. And also that a number of their horses were killed by the soldiers, also that there were Cheyennes and San Arc Indians in the fight....<sup>108</sup>

During an interview with Stanley Vestal in 1932, White Bull recalled that Plenty Lice was killed near the soldiers early in the fight and that Long Holy, Leading-Him, High Hawk (Brule), High Hawk (Minneconjou), Takes-the-Bread, and With-Horn were all wounded during the dare rides.."<sup>109</sup>

Old Bull, who also met with Vestal in 1932 concurred that Plenty Lice was killed and Good Weasel was wounded in the early stages of the fight. He further noted that Good Weasel recovered and lived to be an old man.<sup>110</sup>

The battlefield was left in the hands of the soldiers as the Indians departed. They had proven their bravery in front of Major Baker's command but likely departed as a result of injuries as well as the loss of horses due to the dare rides. The Sioux and allied chiefs must also have realized that they had expended too much ammunition for too little gain.

A letter written by Lieutenant General Philip H. Sheridan dated 25, 1872 notes that some of the Sioux who were in the fight but later returned to the Grand River Agency state that the reason the attack was given up was because the guns of the soldiers carried too far.<sup>111</sup> This statement can be supported by ballistic knowledge and archeological evidence found on the battlefield. Impacted bullets in and near the Indian positions were fired from Springfield and Sharps weapons which were more accurate and carried much further than the majority of the Indian weapons fired at the battlefield, namely Henry or Winchester model 1866 rifles.<sup>112</sup>

The Indians, however, had proven their point: The soldiers were not welcome in the Yellowstone region. The warriors would stand up and fight to keep their treasured hunting ground.

J.A. Hayden understood the Sioux message all too well. He continued the survey until they reached a point near Pompey's Pillar and then declined to proceed further into Sioux territory.<sup>113</sup>



## **Decision to turn North**

The days following the battle on the Yellowstone would prove to be controversial. Major Baker's conduct during the fight and Colonel Hayden's decisions regarding the continuation of the survey would be scrutinized.

Barlow's journal entries from August 14<sup>th</sup> through the 20<sup>th</sup> and the correspondences of the expedition leaders and their superiors needs to be carefully analyzed for a better understanding of why the expedition failed to reach its objective.

Major Baker's command spent the hours following the battle in tending the wounded, burying the dead and examining the bodies of the dead warriors left on the field of battle. The command took stock of its remaining ammunition and supplies and prepared to move. The surveyors completed three miles of line and camp was established in a large grove of cottonwood trees on the banks of the Yellowstone.<sup>114</sup>

It was at this campsite that Hayden first wrote his superior regarding Major Baker's conduct of the battle and his own fears of continuing the survey to the mouth of the Powder River.

This morning we have the following – attacked at three A.M. by Northern Arapahoe and Cheyennes attack strong and persistent and brave this may be a beginning with their strongest force may be an effort to feel out strength if by true we can only be worn down by repeated attacks. If further attacks be made on Bluffs below we can be cut off in detail, my party with a small escort together in camp 15 miles Distance. Infantry and Cavalry fought well military mistake in not putting forth full energy at right time when Cavalry should have acted there appears to be a lack of command. I think escort inadequate for duty expected. Many officers think we could not go below Bighorn without one thousand men. Excessive guard alerted and hundred Crows to assist in defense harass the enemy and steal horses. I think this is a mistake, expect an attack hourly if you can influence the assignment of a larger force do it at once and we can finish survey in thirty days.<sup>115</sup>

The Honorable J. Gregory Smith, President of the Northern Pacific Railroad, discussed Hayden's letter. His letter of August 23, 1872, read as follows:

I received from Major Baker an account of the attack on his party. Its tone was calm. He repulsed the attack and has resumed his march. The dispatch to you from Engineer Flanikan gives the same information as Baker's dispatch to me only less in detail. Flanikan does not seem excited and I think the dispatches from Hayden must be unreliable. Is Hayden with the party, or does he telegraph from some point in the rear. Major Baker says nothing of employing the Crows nor does he ask for more troops. Until I hear further from Baker or some other reliable sources I shall presume he is strong enough, is master of the situation and will accomplish the objective of this expedition. I do not at all believe the troops are demoralized and believe Baker exercised judgment in not pursuing the Indians after repulsing them. If he had done so it would, necessarily, have divided his men – the cavalry, where as by maintaining a defensive attitude although still advancing in their country he keeps the whole force in hand ready to fight at any time, and does not endanger the main objective of this expedition, unless the strength of the Indians becomes so great as to overwhelm his entire force which is not probable. There are no more troops available in this Department for Baker's reinforcement in case he shall require it, unless Colonel Stanley unites with him, if there would have been Baker's command would have been made larger from the onset. It would take thirty days to get reinforcements to him of any such strength as you indicate, one thousand men, either troops which might be sent from other Departments or Montana Volunteers; and, as at present advised I see no necessity for such action. Any information in regard to the fight must have come in with the party that brought Baker's dispatches for me and I therefore think there is no good reason to suppose there is anything in the situation of which Baker did not advise me.<sup>116</sup>

On the following day the main column set up camp upon a hill, overlooking the river, about ninety feet above the river bottom. "The surveyors went out under the escort of one company of cavalry ... Over five miles of survey were made today."<sup>117</sup>

The camp was not moved on August 16<sup>th</sup> due to the engineers' wish to survey and take triangulations for topography of the terrain across the deep ravine just beyond the camp's current position.<sup>118</sup>

On August 17, Major Baker moved the command to the edge of a bench that overlooked the Yellowstone River and the vast bottom-lands upon the opposite side. Barlow noted

that movement could not be made today due to the roughness of the bluffs.<sup>119</sup> On this day a discovery was revealed,

Four large trails have been discovered crossing the river near this point, and remains of rude rafts have been seen upon which dead and wounded Indians were probably crossed over.” Bloody clothes and other indications show that the savages received some injuries from our heavy firing. The remains of nearly all the beef-cattle have been found. The Indians appear to have had a very large force in this vicinity. Several large camping-places have been discovered, and the estimate of the number of Indians at the fight was, perhaps too small.<sup>120</sup>

J.A. Hayden, upon seeing this discovery, presumably lost his nerve. He was faced with the realization that the Sioux and their allies were more numerous than previously thought.

Hayden’s fears are further revealed in Major Barlow’s journal entry for August 18<sup>th</sup>. Barlow wrote, “Colonel Hayden, in charge of the survey, presented Major Baker with a series of questions as to his opinion and that of other officers of the command, concerning the adequate strength of the escort, and its ability to protect the engineers when separated from the main column and concerning the facilities for taking care of a large additional number of wounded in the event of another engagement.”<sup>121</sup>

“Colonel Baker replied that it is the unanimous opinion of himself and his officers that the escort can conduct the survey to Powder River and back in safety, and protect the engineers in their duty, and that there is ample provision for any wounded we are likely to have.” However, no movement by the command or attempt to survey was made that day.<sup>122</sup>

The command spent August 19 on the steep bluffs overlooking the Yellowstone River, with a view of the vast bottomland visible for a great distance. No movement was made

that day due to the roughness of the bluffs and the difficulty of breaking a road through that terrain.<sup>123</sup> According to Barlow's journal, "The day was intensely hot, with a fierce wind blowing during the afternoon, which made camp life exceedingly uncomfortable."<sup>124</sup> Hayden completed only two and a half miles of survey due to the roughness of the country and having to walk 6 miles before beginning the day's survey and walking the same distance after finishing the work.<sup>125</sup>

That night Hayden notified Baker of his desire to end the survey to the Mouth of the Powder River, stating, "... that he desires to go across to the Muscleshell and survey back to Fort Ellis by that line."<sup>126</sup> Barlow noted, "This is probably a just and wise determination, in consideration of all the circumstances of the case."<sup>127</sup>

Mr. Hayden's decision was further explained in the following report written by Major Baker following his return to Fort Ellis:

On the evening of the August 19<sup>th</sup> Mr. Hayden, engineer in charge of the party sent me a note saying that it was in his opinion impossible to proceed with the survey, as it would be necessary to divide the command in order to get the transportation through the badlands, and therefore declined to continue the survey of the Yellowstone, and requested me to conduct his party over to the Musselshell River in order that he might prosecute a survey up that stream, or if my order did not permit of such disposition, to conduct the party back to Ft. Ellis. In compliance with this request I broke camp on the morning of the 20<sup>th</sup> of August and marched over to the Musselshell.<sup>128</sup>

At 7 A.M. on August 20, the Northern Pacific Railroad survey party and their military escort started for the Musselshell River as directed by Colonel Hayden.<sup>129</sup> The Yellowstone Expedition of 1872 had failed to meet its objective of surveying to the mouth of the Powder River.

## **Conclusion**

J.A. Hayden's failure to complete the survey to the mouth of the Powder River following

the battle on the Yellowstone proved to be among the precipitating factor in a chain of events that led to the Great Sioux War and ultimately the forcing of the 'hostile' bands into the reservation system.

The necessity of the Northern Pacific Railroad to pursue a new expedition to complete the survey during the following summer would add to the financial burden of the already overextended Northern Pacific Railway, and would contribute to the collapse of this organization during the Great Economic Panic of 1873.

Sitting Bull and Crazy Horse demonstrated their leadership of the Non-Reservation Sioux and allied bands on the banks of the Yellowstone. While the soldiers were claiming victory at Baker's Battle, news of the fight and of the departure of Baker's expeditionary force from the Yellowstone Valley arrived at the Sioux and Cheyenne reservations. The exploits of such key leaders as Sitting Bull and Crazy Horse at the battle sparked a popular movement by many of the reservation Sioux and their allied bands to return to a more traditional way of live not driven by a Reservation system.

The non-reservation Sioux also learned that a fundamental change in their methods of warfare would be necessary in engaging the U.S. military, i.e.: a more organized approach relying less on the individual battle honors.

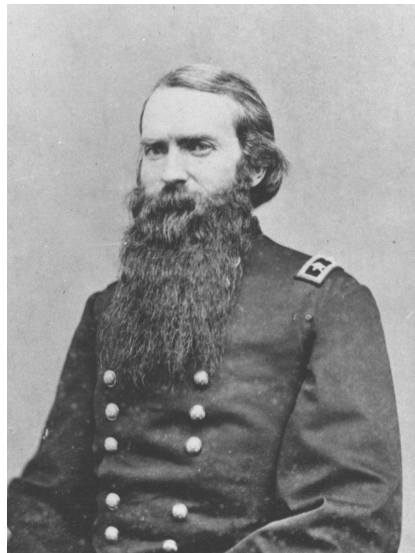
Finally J.A. Hayden's failure to complete the survey would cause the U.S. military to rethink their approach to the Sioux 'problem' and result in policies by the government which would set in motion the Great Sioux War of 1876-77.

## **Collapse of the Northern Pacific Railroad**

Baker's Battle on the Yellowstone alerted the Northern Pacific Railway and the U.S. military to the serious intent of the Sioux to maintain their way of life in the Yellowstone Region. This awareness would result in additional financial investment to field the 1873 Yellowstone Expedition with its massive military contingent.

The Northern Pacific Railway remained committed to the venture of completing the survey from the mouth of the Powder River to Pompey's Pillar. The N.P.R.R. would commit whatever financial resources were necessary to ensure the expedition's success.

The responsibility of protecting the N.P.R.R.'s interests would fall upon Colonel David S. Stanley and Lieutenant Colonel George Armstrong Custer. The U.S. Army had learned from the Hayden-Baker experience and the 1873 Expedition, would be far better prepared and equipped.



**Colonel David S. Stanley**  
**David Stanley Collection, United States Military History Institute**

Stanley's Expedition force would consist of elements of the Sixth, Eighth, Ninth, Seventeenth, and Twenty-second Infantry regiments; ten companies of the Seventh Cavalry; and 353 civilians of whom 26 were members of the Northern Pacific survey crews and 5 were members of a scientific party.<sup>130</sup> Stanley's Expedition numbered 1,522 soldiers, 350 civilian employees, nearly 300 wagons and included two Rodman artillery pieces.<sup>131</sup> More than four times larger than Major Baker's force, Stanley's Expedition could carry on an Indian war even while meeting their survey objectives for the Northern Pacific Railway.

The failure of Major Baker's Expedition and the costs of fielding Colonel Stanley's Yellowstone Expedition of 1873 proved to be one of the significant factors in the collapse of the Northern Pacific Railway during the Great Financial Depression of 1873.

Smalley, the author of "History of the Northern Pacific Railroad" noted,

The Northern Pacific Railroad owed the firm (Jay Cooke & Co.) about a million and a half for advances made to carry on the work of construction. These advances the firm had expected to get back from the sales of the bonds, but long before the crisis the sales had proceeded very slowly; indeed, they had slackened to such an extent in 1872, that the directors of the Company... were obliged to furnish a large sum of money borrowed on their personal credit to meet its pressing necessities. ... When the pressure came upon it, it found itself loaded down with a varied mass of paper assets, upon which little or nothing could be realized in time of trouble.<sup>132</sup>

The Northern Pacific Railroad failed because the company had become overextended with the building of the railroad, including the surveying expeditions of 1871, 72, and 73.

This company also was unable to sell bonds abroad due to the 'Panic of 1873'.

Ultimately the Northern Pacific Railroad was left with worthless bonds, which led to its unfortunate demise.

### **Non-Reservation resurgence**

The Battle of Arrow Creek, the Sioux name for Baker's Battle on the Yellowstone had a significantly impact on the Sioux, Northern Cheyenne and Arapaho, both reservation and non-reservation bands.

A significant result was the emergence of Sitting Bull and Crazy Horse as key leaders of the 'hostile' or non-reservation movement. This is not to say that these inspirational and charismatic leaders had not proven themselves earlier in their struggle against the U.S. military , but their actions during the fight on the Yellowstone enhanced the Sioux tribes respect for the leadership qualities of these two Indian leaders.

Crazy Horse demonstrated unquestionable bravery in this fight and received great admiration from his peers, while Sitting Bull, with his "smoking party" enhanced his position as the most influential leader of the Sioux hunting bands.

Once word spread of Sitting Bull's courage in the raid against the soldiers who had invaded their buffalo range, Red Cloud, and Spotted Tail, the primary figureheads of reservation Sioux leadership, would see their influence wane. Baker and Stanley's military expeditions into their hunting grounds angered and alerted the Sioux to U.S. disregard for their interests to the Yellowstone River region.

Sitting Bull's actions and charismatic leadership at this fight showed that the non-reservation Sioux would act against any invasion. Sitting Bull's leadership on August 14, 1872 resulted in the decision by many of the young warriors at Cheyenne, Standing Rock and other reservations to abandon the agencies and pursue the traditional way of life. This idea is clearly supported by the following letter written by Captain



Carlile Boyd, Seventeenth Infantry at the U.S. Military Station, Cheyenne Agency,  
Dakota Territory, dated September 6, 1872:

That four Sioux Indians, one a brother of “Bull Eagle” and one a brother of “Four Bears” who were engaged in the attack on Maj. Baker, have since that occurrence been at the agency. Their report of the affair is, that they attacked in the evening an hour or so before sunset, and that the fight was continued till the next evening. They state the loss of the Sioux as one killed, and ten severely wounded and most of them mortally wounded, they also had a considerable number of horses killed. I cannot get any report of the loss among the Cheyennes and Arapahos. The Interpreter here believes that there were about 1500 Indians in the party, 400 of them Sioux. They also report that after Major Baker resumed his march, the ground where the contest took place was visited by some of the Indians, and that (4) or five (5) bodies of soldiers were exhumed and stripped of their clothing. Also that the bands were engaged were Sioux, Arapaho and Cheyenne separated with the understanding that they were to re-unite, and with the Uncapapas were to attack General Stanley. Many of the Indians of this agency have been waiting here for sometime past the distribution of their annuity goods, and having received them they have now disappeared. It is generally believed that most of them have gone to join the camp of those engaged in active hostilities. I am informed that about 300 lodges have gone. “Spotted Eagle” sent a message to my Interpreter here, and asked that he would make it known to the whites to the effect that he had wherever and whenever he met them. He was slightly wounded, and his horse was killed in the conflict. The engagement was reported by the Indians as having taken place at the mouth of Arrow Creek. <sup>133</sup>

### **Lesson learned by the Sioux**

Baker Battle on the Yellowstone provided the Indians with valuable experience that appears to have resulted in some changes to their traditional fighting style. The results of this battle re-enforced the use of organized tactics in contrast to individual exploits (i.e. the futility of dare rides and other individual exploits verses mass troops) demonstrating an evolution in Indian tactics.

The practice of racing a warrior’s pony in front of the enemy called dare riding had been a long tradition. It surely had its roots in the pre-firearms era. As the tribes gained more experience against even more accurate firearms the practice became less prevalent.

The use of dare rides at the Baker fight resulted in several casualties and the loss of

numerous horses. This practice appears less frequently following the fight on the Yellowstone.

Prior to the Baker fight it was common for warriors to move into close combat and engage in hand to hand fighting. As with the dare ride, the futility of close combat with organized bodies of troops was clearly evidenced by the Baker fight as the warriors drew off to long rifle range distance to engage the soldiers. This pattern of rifle fire from positions as far away as eight hundred yards would be effectively employed in the Reno Engagement in 1876 and virtually every other engagement in the Great Sioux War.

The non-reservation bands of warriors were learning that the methods of warfare which characterized intertribal fighting were ineffective against the U.S. soldiers. This was clearly indicated by the outcomes of Baker's fight on the Yellowstone, August 14, 1872, the fight on O'Fallon Creek on August 16<sup>th</sup>, the fight at the mouth of the Powder River on August 18<sup>th</sup>, and the fights on O'Fallon Creek on the 21<sup>st</sup> and 22<sup>nd</sup> of August. Each of these incidents resulted in the U.S. soldiers repulsing the Indian attacks.

Major Baker's battle on the Yellowstone, and the fights against Colonel Stanley's column during the summer of 1872 marked the beginning of this period of transition, which saw the development of more organized tactics, such as massed and directed firepower rather than individual exploits. This development would result in the Sioux becoming a much more formidable enemy during the Great Sioux War of 1876 – 1877.

### **New Indian Policies**

The fight on the Yellowstone resulted in the U.S. re-examination of the relationship of

the Government, military and the non-reservation bands. The government realized that its policies in dealing with the reservation bands would need to be overhauled. Two such troubles that needed to be addressed were the easy acquisition of arms by the non-reservation Sioux and the non-restricted roaming of these bands, namely those who followed Black Moon and Sitting Bull.

Colonel Stanley proved to be active in protesting the non-reservation bands' ease at acquiring modern arms and ammunition. He addressed his alarms to his superiors resulting in the Secretary of Interior issuing an order restricting such sales only to "non-hostile" Indians and then only through Indian agents. Civilian post traders were forbidden to sell arms and ammunition to Indians under the threat of losing their licenses.<sup>134</sup>

Baker's Battle resulted in delay to the construction of the Northern Pacific Railroad. Generals Sherman and Sheridan were among the influential leaders knew that the non-Reservation Sioux stood in the way of the progress of the Northern Pacific Railway through Montana Territory. This point is made clear by comments made by General William T. Sherman. Only a month after Baker's Battle, Commanding General William T. Sherman wrote to Lieutenant General Philip H. Sheridan, "the army ought to give every possible assistance, as it will help to bring the Indian problem to a final solution."<sup>135</sup> That same year, officials of the Indian Bureau acknowledged that the new railroad line "would solve the great Sioux problem and serve as part of a great corral for that warlike tribe."<sup>136</sup> General W.T. Sherman, as well as the Indian Bureau officials understood that the construction of the railroad through the Sioux hunting grounds would

seriously deplete herds of buffalo and other game and starve these Indians into submission or force these bands back on the reservations.

Despite Stanley and Custer's completion of the NPRR survey line in 1873, it would not be until the mid-1880's, more than a decade later that a financially rejuvenated Northern Pacific Railroad would complete their line through the Yellowstone River Valley.

### **Post Script 1.): The Baker Controversy**

Unfortunately for Major Baker, there were those who would try to discredit his actions on the Yellowstone. He was already out of favor with the eastern press for his actions against the Piegans on January 23, 1870; (Baker had the approval of the general population of Western Montana) his behavior on the Yellowstone would be equally targeted. Many of his decisions would be questioned, such as choosing the campsite, excessive drinking with the other officers during the night of the battle, and not pursuing the Indian force. In fact the name of the battleground soon became known as the Battle of Poker Flat, a jovial reference by the soldiers to reflect Baker's conduct during the night of the battle.<sup>137</sup>

It is the authors' intent to address the criticism leveled at Major Baker and contend that he maintained command and control of his soldiers at the fight on the Yellowstone and throughout the remainder of the expedition.

The location of Major Baker's camp was criticized by some of his opponents. However, his campsite on the Yellowstone provided a nearly ideal bivouac site. It was level to accommodate an orderly layout. The camp was close to good water providing for sanitary needs and some recreation. Wood was plentiful for fires. In size the site easily accommodated the number of troops present as well as adequate space for the wagons and livestock. Good forage was abundant reducing the need to deplete the feed stocks. A convenient shallow depression allowed a good place to picket the horses. The slough which arched around the camp provided a natural barrier to help contain the livestock.

The primary disadvantage was the fact that heavy timber and underbrush allowed for close covered approach from either upstream or downstream and the entire camp was dominated by the surrounding bluffs. However, the bluffs were from three hundred to more than eight hundred yards distance. Outposting the bluffs would have been useful in providing early warning of hostile approach in daytime but would have been foolhardy at night. Normal pickets and sentinels located nearer the camp was more prudent for the hours of darkness.

The benefits of this campsite far outweighed the disadvantages. This contention was shared by one of Major Baker's subordinate officers. The following comments were made long after Baker's death. According to Lieutenant McClelland's reminiscences,

The commanding officer was criticized by many, but in my opinion this criticism

was largely unjust. The critics charged ... that bad judgment was shown in the selection of the campground. With that view I distinctly disagree.<sup>138</sup>

The most serious accusations dealt with his supposed drunken behavior at the Battle. Lt.

James H. Bradley, who was not present at the fight, wrote,

The presence in the neighborhood of two or three Indian dogs had excited some apprehension that there were Indians about, but the general feeling was of confidence and security; and not only were no special precautions taken by the commander of the force to guard against an attack, but upon the very night fixed for it, he permitted himself to become unfitted for proper performance of his duties by an overindulgence in strong drink.<sup>139</sup>

Peter Koch, who at that time was employed at the Wilson and Rich Store in Bozeman and

for two years prior was employed in the Quartermaster Department as a clerk at Fort

Ellis, addressed Major Baker's drinking in a letter to his wife in a letter dated Bozeman,

September 7, 1872:

My Dearest Laurie, You remember I told you two weeks ago that the troops down the Yellowstone had a fight with the Sioux. They only went on about 20 miles further, when it was resolved that it would be dangerous to advance, and they are now on their way home. The main cause of this retreat was Col. Baker's drunkenness and incapacity, and unless the affair is hushed up, which I trust it will not be, he will doubtlessly be dismissed from the service. The affair is a disgrace to the army, and will hurt the N.P.R.R. seriously and set back the work at least a year, as it will be too late now to locate the line this summer. Several other officers behaved as disgracefully as Baker, but the responsibility falls of course chiefly on him as the commanding officer.<sup>140</sup>

Lieutenant Bradley and Peter Koch were not the only ones who suggested harsh

condemnation for Major Baker's actions on the Yellowstone River. Colonel Gibbon

would add the following criticism for Major Baker in his letter to Major O.D. Green,

Assistant Adjutant General, dated August 19, 1872.

The Courier from Baker's camp conveying the intelligence of the Indian attack on his command reached here yesterday a few hours after my return to the post. The information from reliable officers of both the cavalry & infantry is of such a character regarding Maj. Baker's condition at the commencement of the attack (2:30 a.m.) and during its continuance for several hours that I consider Capt.

Rawn, the next officer in rank, would have been justified in assuming command of the expedition; and were there any means of communicating with it, I should place him in command & arrest Maj. Baker. The small party which accompanied the courier (Ordnance Sergeant O’Niel of this post) left the camp at night & were fortunate in reaching the post, a distance of about 180 miles in less than four days unmolested. One of the officers states that all the whiskey in camp had, since the fight, been spilled and from this fact I trust no further like trouble will occur. When the troops once commenced to act they repulsed the Indians with but little difficulty. The command is amply able to take care of itself, and the warning it has had will be of advantage to it. I regret the necessarily ex-parte’ character of this statement but deem it my duty to make it.<sup>141</sup>

The authors contend that Major Baker was able to maintain effective command and control over his soldiers during the fight on the Yellowstone, despite Bakers drinking in the hours prior to the fight. To support this contention, Baker’s actions must be looked at carefully from the time he established the camp till the time the Indians withdrew from the field of battle.

As soon as the camp on the Yellowstone was established, the Officer of the Day (Captain Thompson) became responsible for all camp activities until further changes were set forth by the commander. At this point, one may consider Major Baker off-duty. That night there was word that Indians were in the vicinity. As a result, Officer of the Guard, Lieutenant Logan carefully placed his sentries and kept up a vigilant watch over the command. Major Baker retired to his tent with a number of his officers confident in the security of the camp, and convinced that the Indians would not attack his command. They engaged in a night of poker complimented with whiskey.

Once word of the Indian attack came, Major Baker took appropriate action when he sent Captain Thompson to verify the Indian attack. Once the attack was verified, Major Baker ordered Lieutenant Hamilton to reinforce the guard. He then completed the deployment of his companies.

Throughout the battle the cavalry companies fought in conjunction with the Infantry. The entire force opposed the Indians in an orderly and effective manner, with strict adherence to U.S. military tactics and doctrine, which included the use of skirmish lines, controlled volleys of rifle fire, and occupation of the slough and timbers, which afforded the most protection to his soldiers, and provided his men with clear fields of fire against those Indians in the bottomlands and those in the bluffs. Tight control of the skirmish line around the camp was maintained throughout the fight and sound decisions were made by the commanding officer to send Captain Ball to push the Indians from the bluffs to the left of Major Baker's force. Finally caution was taken to reconnoiter the Indian withdrawal from the battlefield.

Another area of criticism directed toward Baker dealt with his decision not to pursue the Indians following the fight on the Yellowstone.

When considering Major Baker's actions following the fight, one must realize that his purpose was not to chase down Indians but to protect the survey crew. Baker must have realized that he did not have the necessary resources to follow a large group of heavily armed warriors in their own territory.

This criticism was not shared by some of his superiors. General Sheridan in a letter to Major General Winfield S. Hancock, dated August 20, 1872, had this to say:

I judge from Barlow's Telegram to me that Baker continued on with his surveying party. To protect the surveying party and let it accomplish its work is the object of his expedition, and I am glad that Baker has not allowed himself to be diverted from this object to follow the Indians who attacked.<sup>142</sup>

There are those who would contend that it was Major Baker's fault that the survey to the



mouth of the Powder River was not finished. Major Baker expressed the opinion that his troops could sufficiently escort Chief Engineer Hayden's surveyors. Despite this assurance Hayden made the decision to head north. He did so under his own accord. For this decision Hayden was responsible for the Expedition's failure to meet its objective. Major Baker was the military escort leader, not the survey mission's commander, and could only comply with Hayden's decision.

Hayden's fears of renewed Indian attacks were legitimate. However, they were verified not by actions against Baker's expedition but against Colonel Stanley's force. Only two days after Baker's Battle a party of approximately 20 Indians harassed Colonel Stanley's column on O'Fallon Creek.<sup>143</sup> On the morning of August 18<sup>th</sup>, a party of between 25 to 30 Indians chased an engineer who had strayed from the Expedition party to hunt agates. Mr. Davis, the engineer (agate hunter) was saved by Stanley's scouts and a few of his soldiers, who raced to his aid.<sup>144</sup> Soon after the Davis incident, Gall and his party of warriors then attacked Stanley's soldiers at the Mouth of the Powder River where Baker had been expected to meet up with them.<sup>145</sup> Sitting Bull, Gall and their warriors harassed the soldiers on O'Fallon's Creek once again on August 21 and 22.<sup>146</sup> Although the numbers of Indian participants in these engagements against Colonel Stanley were small in comparison to Baker's battle on the Yellowstone, they testify to the continued presence of the non-reservation Sioux in the area and a willingness to fight.

The failure of the expedition to complete the survey to the mouth of the Powder River and heated sentiments from such distinguished personnel as Colonel Gibbon led to a court of inquiry, and Major Baker's transfer from Fort Ellis to the Department of the Platte, Wyoming Territory in February of 1873.<sup>147</sup>

The ramifications of Baker's Court of Inquiry (October 15, 1872, to January 11, 1873) led to historical inaccuracies about his career and his actions in other campaigns.<sup>148</sup>

There has been an assumption that Major Baker's career was over following the court of inquiry. However, this is not the case. Major Baker was transferred to Wyoming Territory and was active at Fort Sanders and Fort Brown. During his tenure in the Department of the Platte, he was second in command of an expedition, consisting of companies A, B, E, I, K, and M, Second Cavalry, two companies of the Third Cavalry, and eight companies of infantry sent to quiet Sioux unrest at the Red Cloud and Spotted Tail Agencies (February 19 to March 16, 1874).<sup>149</sup> He would go on to serve at a number of posts in the Department of the Platte and later at Forts Custer, Maginniss, and Walla Walla until his death on December 19, 1884.<sup>150</sup>

Major Baker appears to be one of the most maligned figures in Indian War history. His service record during the Civil War was excellent. He was brevetted Major on May 5, 1862 for gallantry and meritorious service at the battle of Williamsburg, Virginia and brevetted Lieutenant Colonel on September 19, 1864 for gallantry and meritorious service at the battle of Winchester, Virginia.<sup>151</sup> He was brevetted Colonel during December 1868 for zeal and energy while in command of troops operating against hostile Indians in 1866, 187 and 1868.<sup>152</sup> His distinguished service record may well have been the reason for his selection as commander at Fort Ellis. He enjoyed the approval of Sheridan and Sherman because of his competence as a leader. His actions on the Marias River against the Piegans was not disapproved of by his superiors, and his actions although controversial, effectively ended any problems initiated by those of the Blackfeet

who would make trouble against citizens in Montana Territory. The fight on the Yellowstone was also successful, as Major Baker's troops easily repulsed the Sioux.

Admittedly, Major Baker was drinking on the Yellowstone prior to the fight with the non-reservation Indians, but there has been a tendency by certain historians to affix his alleged drunkenness not only at the battle on the Yellowstone but to almost every fight in which he was involved. This includes the battle on the Marias River in 1870 when his command attacked and defeated an encampment of Piegan Indians. Critical research has gone into both battles involving Baker, and no primary "official" documentation, or first hand 'credible' accounts, have noted Major Baker as being drunk on the Marias fight.

Joe Kipp, a military scout during the fight on the Marias was interviewed in 1913. He accused Major Baker of being drunk at the time of the attack on the Piegans.<sup>153</sup> This man was to remain in close contact with the Piegans throughout his lengthy career as a whiskey trader and later as a successful businessman.<sup>154</sup> He would even go on to marry Chief Heavy Runner's daughter, Double Strike Woman, who, as a young child, survived the fight on the Marias.<sup>155</sup> Robert J. Ege, author of *Tell Baker To Strike Them Hard!*, suggests that Kipp's comments regarding Baker, "... may have been an integral part of his program to restore himself to a position of respect among the tribes as a whiskey trader, this he needed."<sup>156</sup> In addition, his later accusations tend to be somewhat far fetched.

One such example of his poor credibility is Kipp's contention that the soldiers rounded up nearly 5,000 horses, of which 400 to 500 belonged to Chief Heavy Runner, despite the official notation that Major Baker only captured a few more than 300 horses.<sup>157</sup>

Historians seem to have overlooked Baker's successes and gravitated toward the accounts of those witnesses who were not credible and those who were not present at the fights on the Marias and the Yellowstone. Admittedly, Major Baker was drinking on the Yellowstone prior to the fight. Despite this fact, Baker made competent decisions and maintained control over the situation. His junior officers, namely McClernand, Doane and Schofield would go to great lengths to defend his competency and honor, years after Baker's death. Their words have largely been ignored by the historical community.

**Post Script 2.): The horse thief who saved Major Baker's Command**

The following story about Jack Gorman is an interesting supplement to the history of the battle. Jack Gorman fired the first shot, wounding Plenty Lice and alerting Major Baker's force to the presence of Indians inside the camp. The subsequent letters tell us the story of Jack Gorman and his part of the history of Baker's Battle.

The following letter is from John Guy, Sheriff of Gallatin County, M.T. to Major E. M. Baker, dated August 23, 1872,

I have in my hands a warrant for the arrest of John Gorman, Herbert Williams and Aus. (Augustus) Callahan charged with Horse Stealing. These men are all supposed to be with your command. The first two have never been in custody, he last man but made his escape. I wish you would arrest them and either send them in or notify me where I can get them.<sup>158</sup>

Another letter written by Sheriff Guy to Major Baker goes into more detail regarding the three horse thieves. The date of this letter is unclear. What is readable is August 2(?) (the last digit is illegible.)

I have a warrant for the arrest of John Gorman, Herbert Williams and Augustus Callahan charging with grand larceny. All are supposed to be with your command. Callahan was arrested but escaped. Gorman and Williams have never been arrested but from disclosures made by one Clark now in jail, have been implicated. They belong to a gang of horse thieves part of which are now no more owing to the good that of those who captured the man in jail and killed Hallone (sic), Marsh and Conners. If you are not personally acquainted with the men Capt. Ball can put you on your track as he knowing Gorman and I think the other two very well. Please arrest them and send them to Fort Ellis or notify me where they are. Hoping you will be good enough to assist me in bringing these men to justice. ... <sup>159</sup>

On September 5, while Major Baker's command was moving through the Muscleshell Valley a citizen from Bozeman made his way into the camp. Major Barlow's journal gives a detailed account of his arrival.

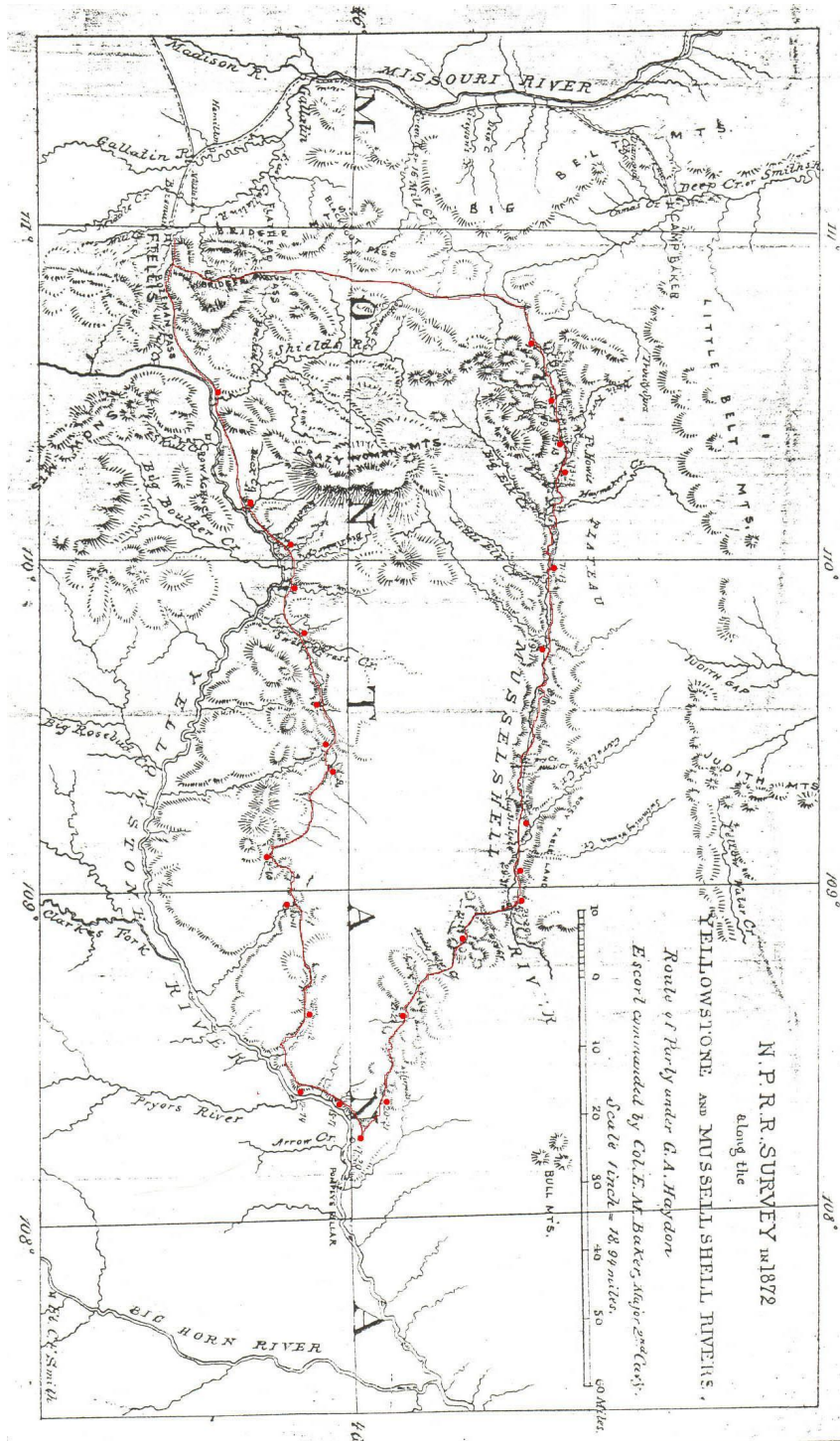
Leaving Bozeman on the 24<sup>th</sup> with a large mail-bag and several days supplies and an extra horse he struck down the river expecting to find us near the Big Horn. When about opposite that point he was attacked by a small party of Indians as he was about camping, toward the morning of the 29<sup>th</sup>. The Indians came upon him so suddenly that he had hardly time to escape with his horses, leaving all his supplies, including his provisions and the mail. The Indians followed, but having two horses he was enabled, by changing from one to the other, as each became tired, to outrun them, and finally made his escape across the divide to our trail on the Muscleshell. He reports that he observed from a high ridge that the country across the Yellowstone was literally covered with Indians. He followed our trail without food for four days. At last he found a few crackers at one of our abandoned camps, and they revived his nearly exhausted strength. He reached our present camp at three o'clock scarcely alive. Among the few letters which he happened to have in his pocket was a request from the civil authorities for the arrest of some horse-thieves, who were supposed to be among the citizens accompanying our party. Two of the persons named were known to be present, and were at once arrested. The night set in dark and rainy, and at about half-past 8, Gorman, one of the prisoners referred to, slipped away from the guard and disappeared in the darkness. Three shots from the sentinels created the impression in camp that the Indians were attempting to attack; and until the cause of the firing was ascertained the camp was thoroughly aroused....<sup>160</sup>

The following account given by John W. Ponsford (Sergeant, Co. F, 2<sup>nd</sup> Cavalry, during the fight) and published in the Montana Newspaper Association Inserts, *Judith Basin County Press*, July 13, 1936 indicates that the story of Jack Gorman's actions at Baker's Battle were not forgotten.

The next day the command moved to the Yellowstone River and camped above the mouth of Pryor creek on what is now known as Baker's battlefield. There were some camp followers following the command – prospectors and wolfers – who made their beds and slept outside the lines of the guards at night. One of these, Jack Gorman, before going to bed propped his rifle up against a tree, but his cartridges and revolver were in the blanket with him. During the night (3 a.m.) he was lying awake and saw what he thought as a bunch of feathers moving, and watched for a second or two found that the feathers had an Indian's head in them. He cocked his revolver and without moving his body shot the Indian through the head. The report of the pistol awoke the camp and the Indians commenced shooting at the soldiers, but shot very high. ... The fact that Jack Gorman had placed his rifle up against a tree and an Indian saw it and was crawling up to steal it, and that Gorman was awake at the time, is the accident that probably saved the whole command ahead of the big outfit of Indians.<sup>161</sup>

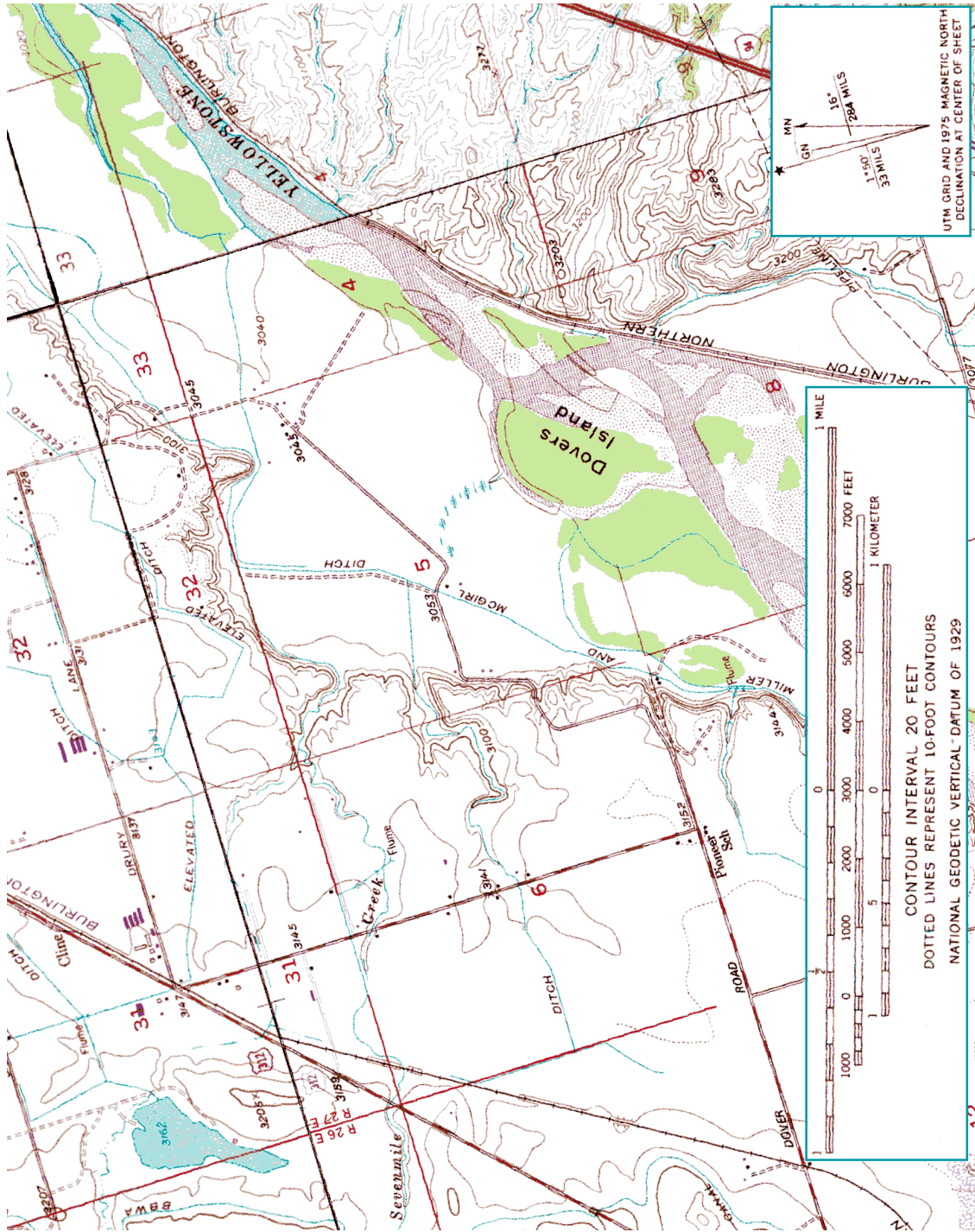
Jack Gorman, the horse thief, wanted by the sheriff of Gallatin County was also a hero at Baker's Battle. Gorman's life following his flight from the Muscleshell on the night of September 5<sup>th</sup> 1872 remains a mystery; however, he was not to enjoy a long escape from justice as he was killed by Assiniboine Indians near Sandy Creek in the Spring of 1875.

**This map shows the campsites used by the Northern Pacific Railroad Survey Expedition of 1872.**

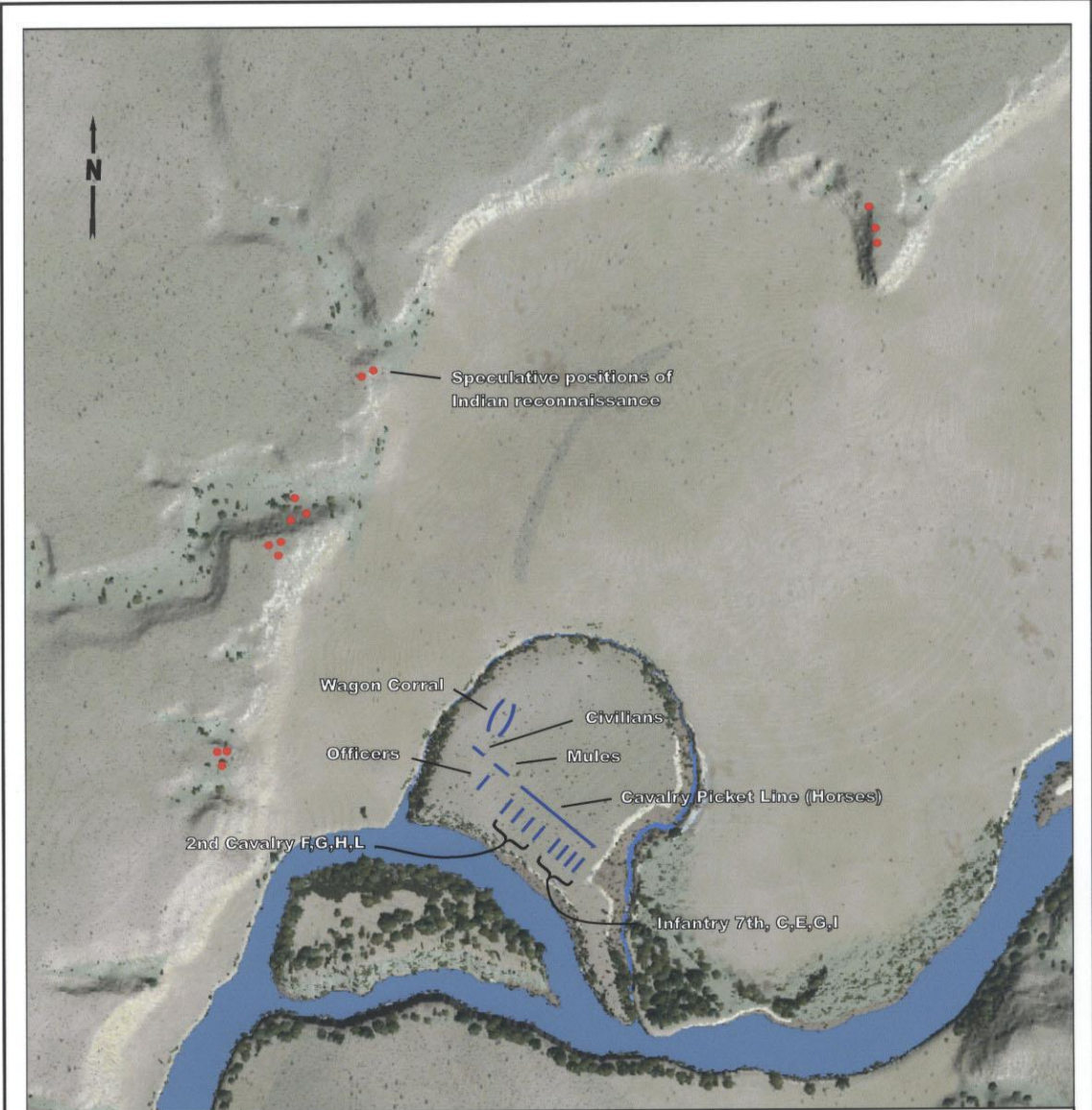


**Billings East Quad Map: Baker's Battlefield is located on Sections 5, 6, 7 and 32 of T1N, R27E, Principal Meridian.**





b. Timeline relating to Baker's Battle on the Yellowstone, August 14, 1872

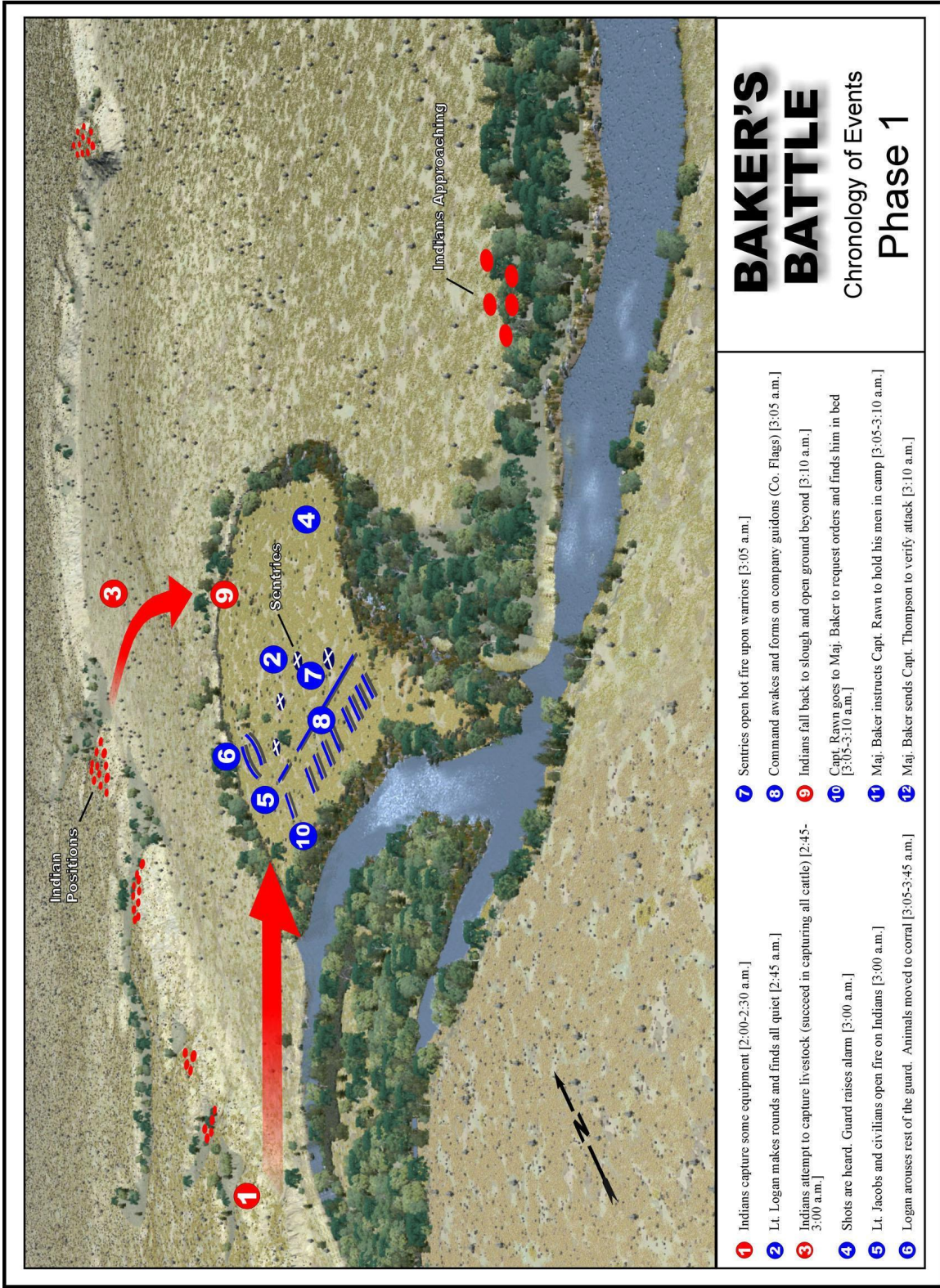


- ① Command arrives. Camp established.
- ② Soldiers fish and do laundry.
- ③ Capt. Thompson assigned "Officer of the Day".
- ④ First Lt. Logan assigned "Officer of the Guard".
- ⑤ Maj. Baker interviews civilians (LeForge, Herendeen, others) about Sioux presence.
- ⑥ Indians reconnoiter and gather intelligence on Baker's camp.

# BAKER'S BATTLE

## Pre-Battle Events



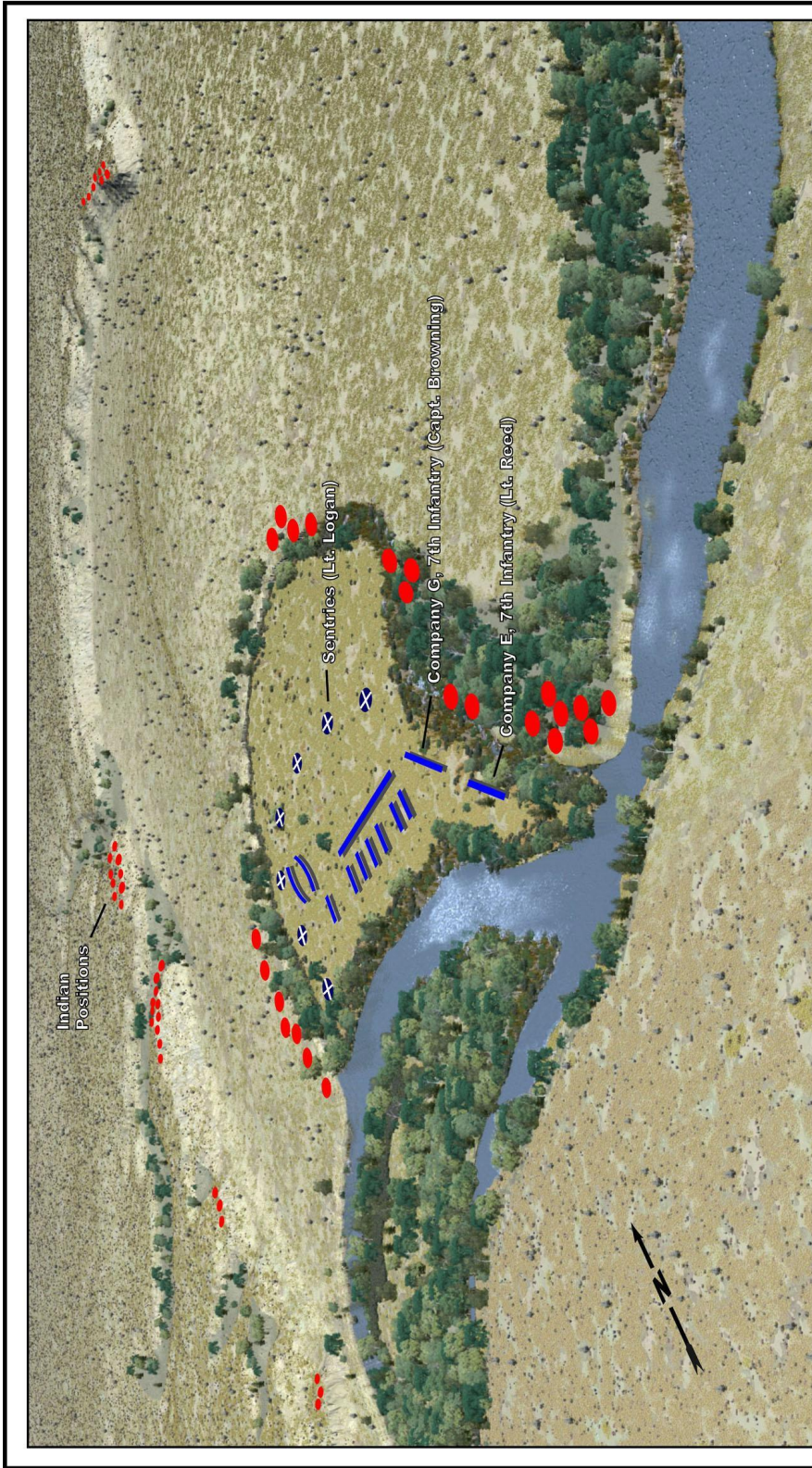


# BAKER'S BATTLE

## Chronology of Events Phase 1

- 1 Indians capture some equipment [2:00-2:30 a.m.]
- 2 Lt. Logan makes rounds and finds all quiet [2:45 a.m.]
- 3 Indians attempt to capture livestock (succeed in capturing all cattle) [2:45-3:00 a.m.]
- 4 Shots are heard. Guard raises alarm [3:00 a.m.]
- 5 Lt. Jacobs and civilians open fire on Indians [3:00 a.m.]
- 6 Logan arouses rest of the guard. Animals moved to corral [3:05-3:45 a.m.]
- 7 Sentries open hot fire upon warriors [3:05 a.m.]
- 8 Command awakes and forms on company guidons (Co. Flags) [3:05 a.m.]
- 9 Indians fall back to slough and open ground beyond [3:10 a.m.]
- 10 Capt. Rawn goes to Maj. Baker to request orders and finds him in bed [3:05-3:10 a.m.]
- 11 Maj. Baker instructs Capt. Rawn to hold his men in camp [3:05-3:10 a.m.]
- 12 Maj. Baker sends Capt. Thompson to verify attack [3:10 a.m.]



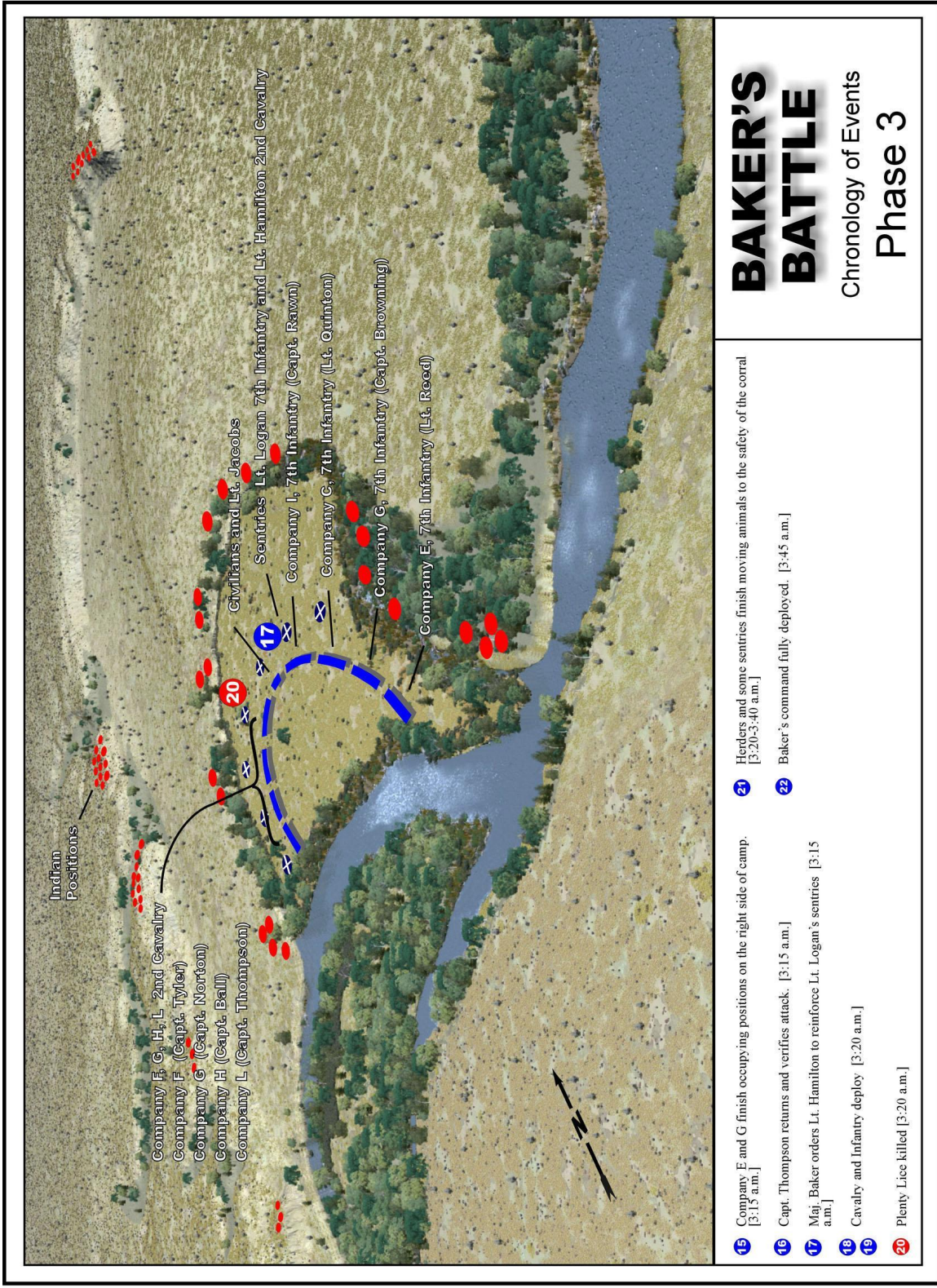


# BAKER'S BATTLE

Chronology of Events  
Phase 2

- 13 Rawn leaves Maj. Baker's tent and returns to Infantry [3:10 a.m.]
- 14 Rawn deploys Company E and Company G on right flank of camp. They lie in tall grass facing the slough. [3:10-3:15 a.m.]



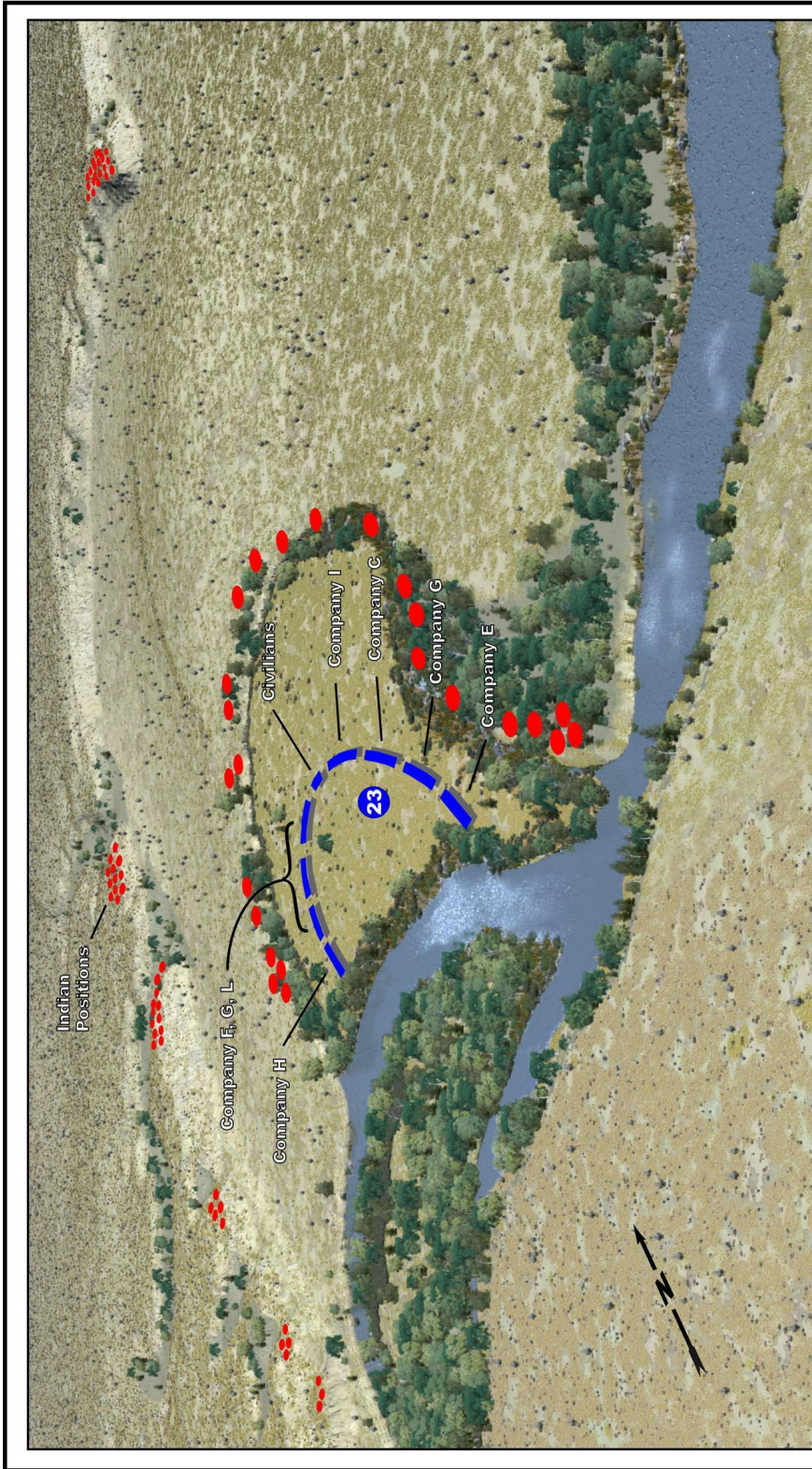


# BAKER'S BATTLE

## Chronology of Events

### Phase 3





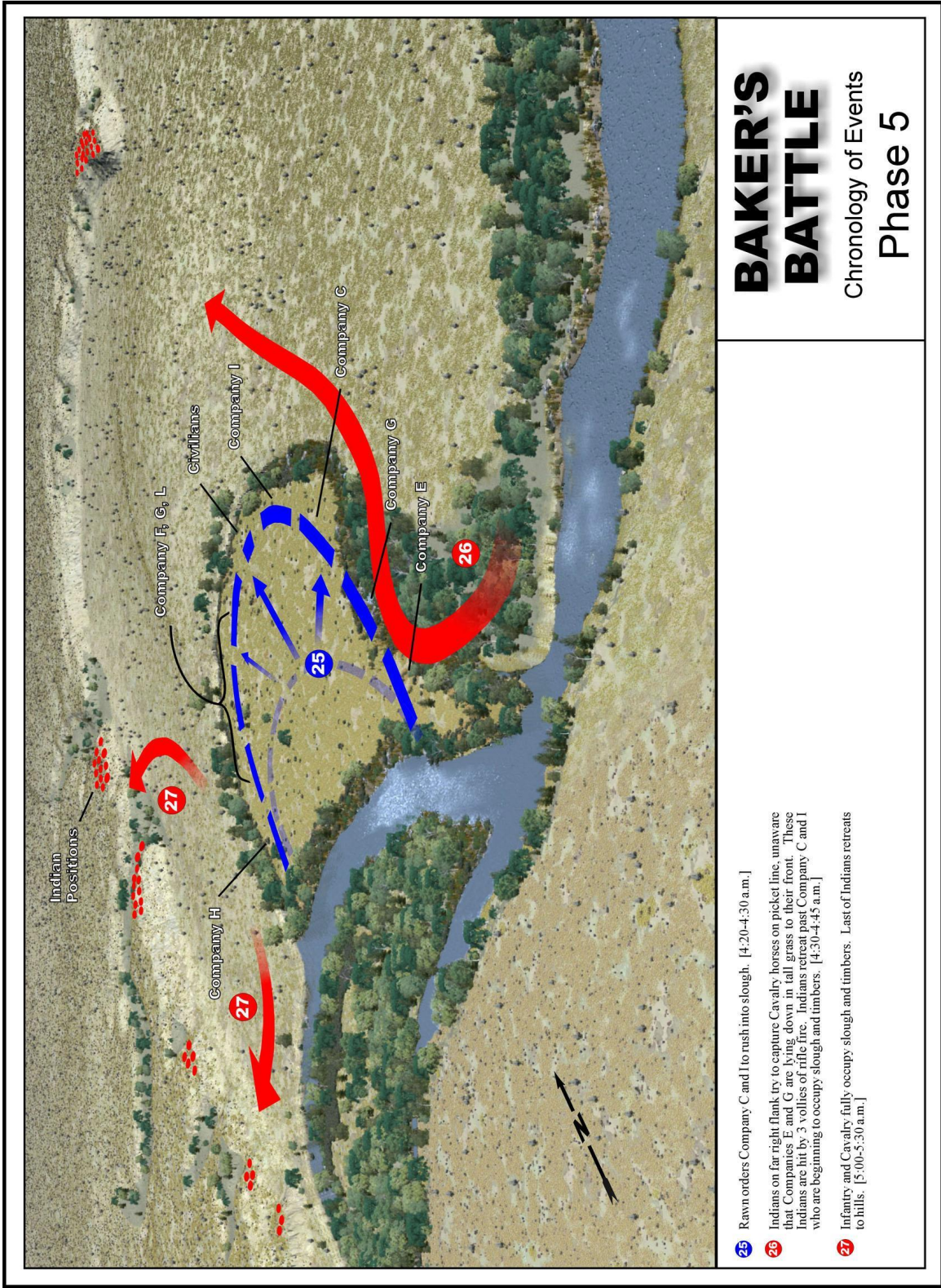
# BAKER'S BATTLE

Chronology of Events  
Phase 4

**23** Rawn orders Company C and I to fire briskly into Indians who appear in slough and timbers (Sergeant McClaren Company C, 7th Infantry killed moving to his company position). [3:45-4:20 a.m.]

**24** Cavalry and Infantry fire at Indians in slough and timber. [3:45-4:20 a.m.] (Around the entire perimeter)



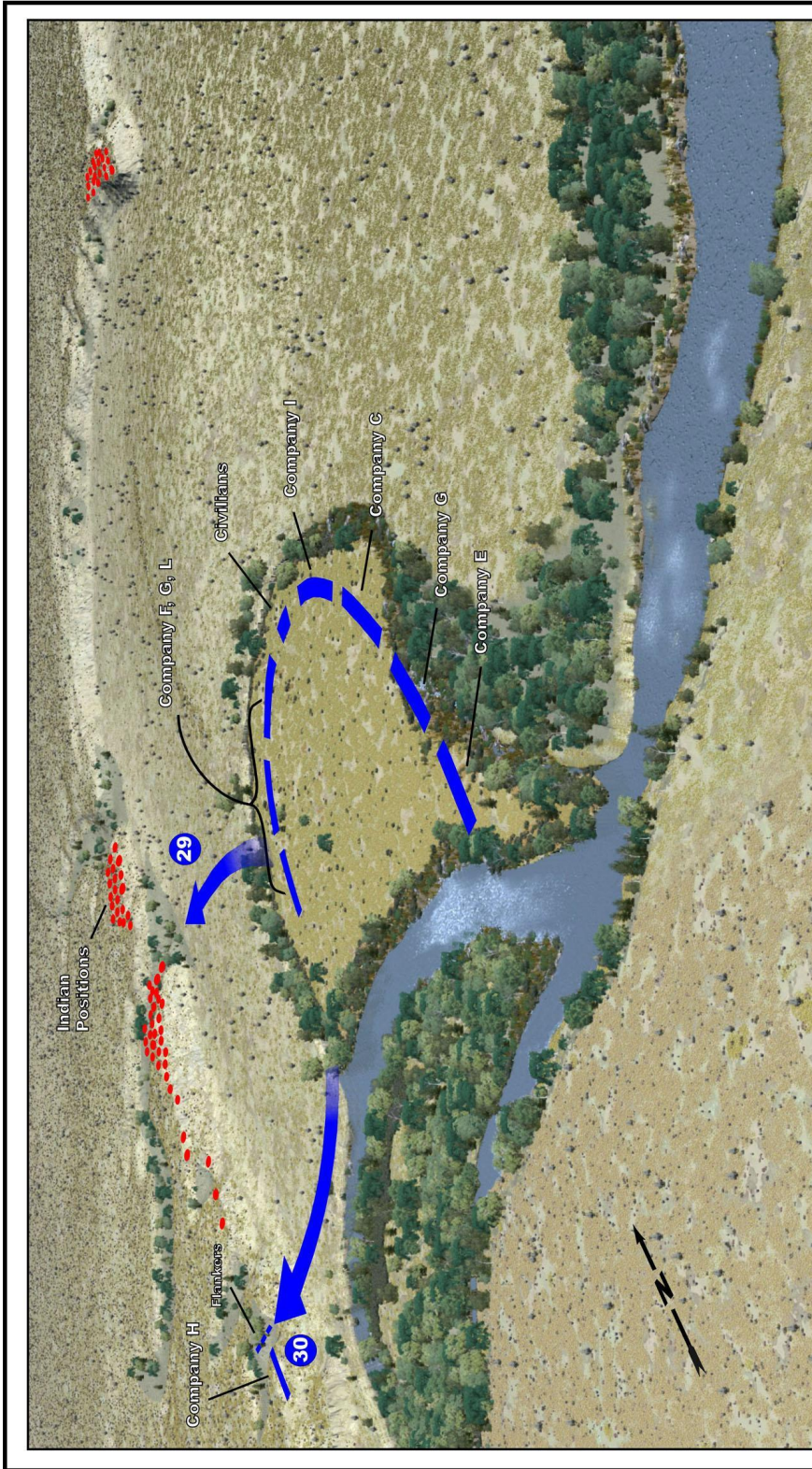


# BAKER'S BATTLE

Chronology of Events  
Phase 5

- 25** Rawn orders Company C and I to rush into slough. [4:20-4:30 a.m.]
- 26** Indians on far right flank try to capture Cavalry horses on picket line, unaware that Companies E and G are lying down in tall grass to their front. These Indians are hit by 3 volleys of rifle fire. Indians retreat past Company C and I who are beginning to occupy slough and timbers. [4:30-4:45 a.m.]
- 27** Infantry and Cavalry fully occupy slough and timbers. Last of Indians retreats to hills. [5:00-5:30 a.m.]



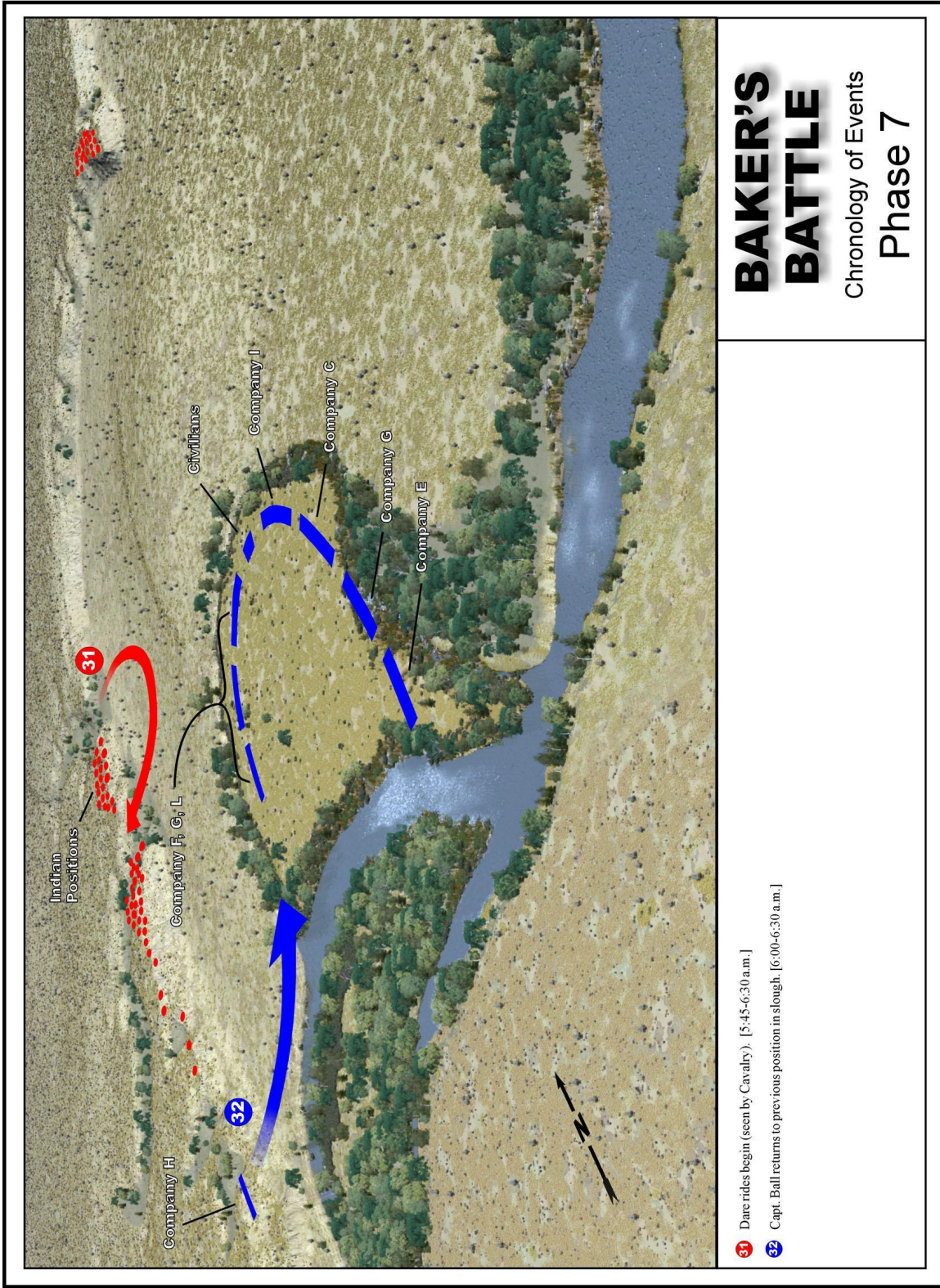


# BAKER'S BATTLE

Chronology of Events  
Phase 6

- 28 Battle is now long-range fight. [5:00-5:30 a.m.]
- 29 Lt. Grugan, Company F, 2nd Cavalry, and 15 men mounted, move forward and see numerous Indians in front and promptly retreat to safety of slough and timbers. [5:30-5:43 a.m.]
- 30 Capt. Ball and his company (dismounted) occupy hills to left flank of Baker's camp. Ball deploys flankers (Approximately nine men). [5:30-5:45 a.m.]





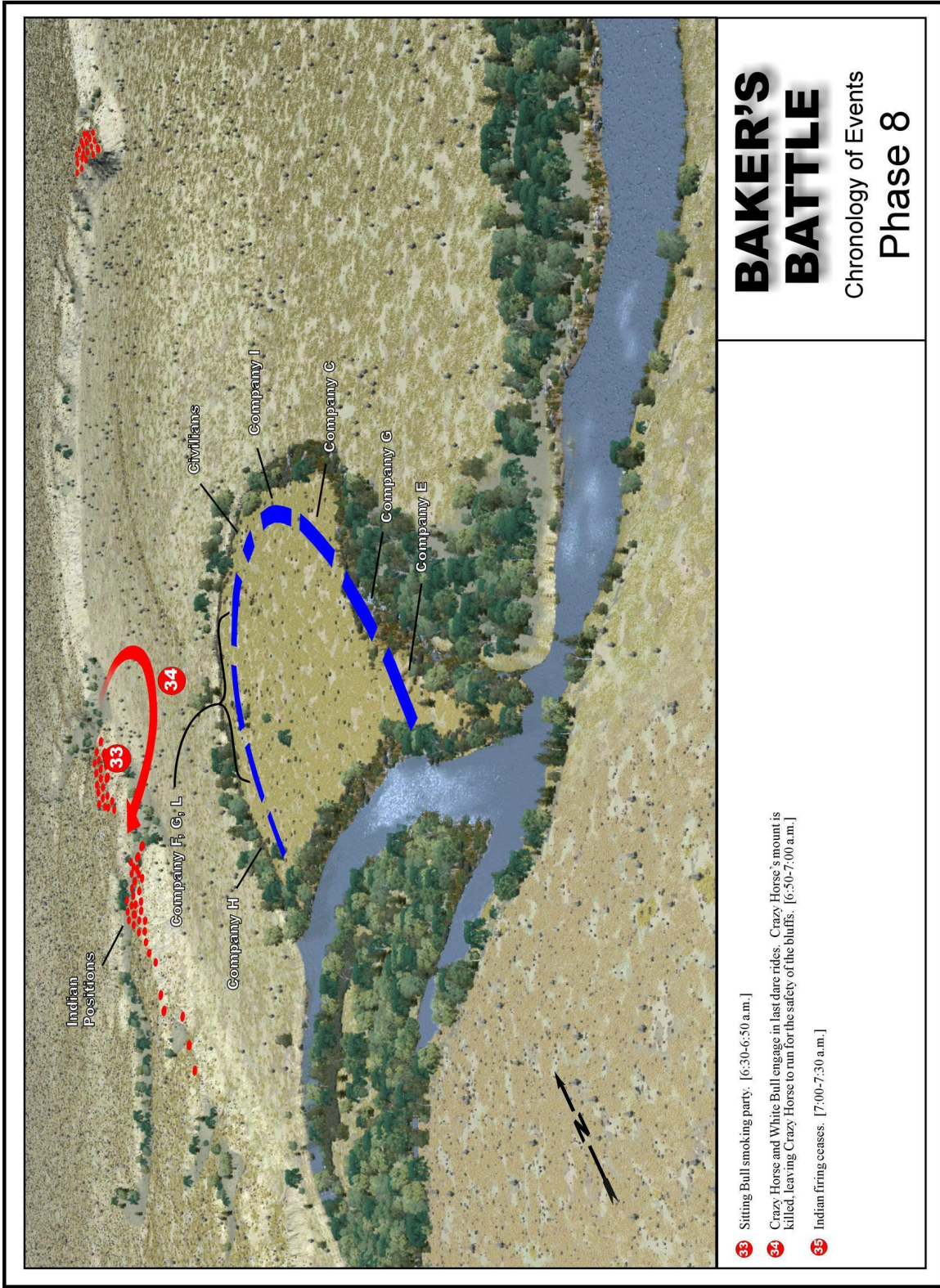
# BAKER'S BATTLE

Chronology of Events  
Phase 7

31 Dare rides begin (seen by Cavalry). [5:45-6:30 a.m.]

32 Capt. Ball returns to previous position in slough. [6:00-6:30 a.m.]



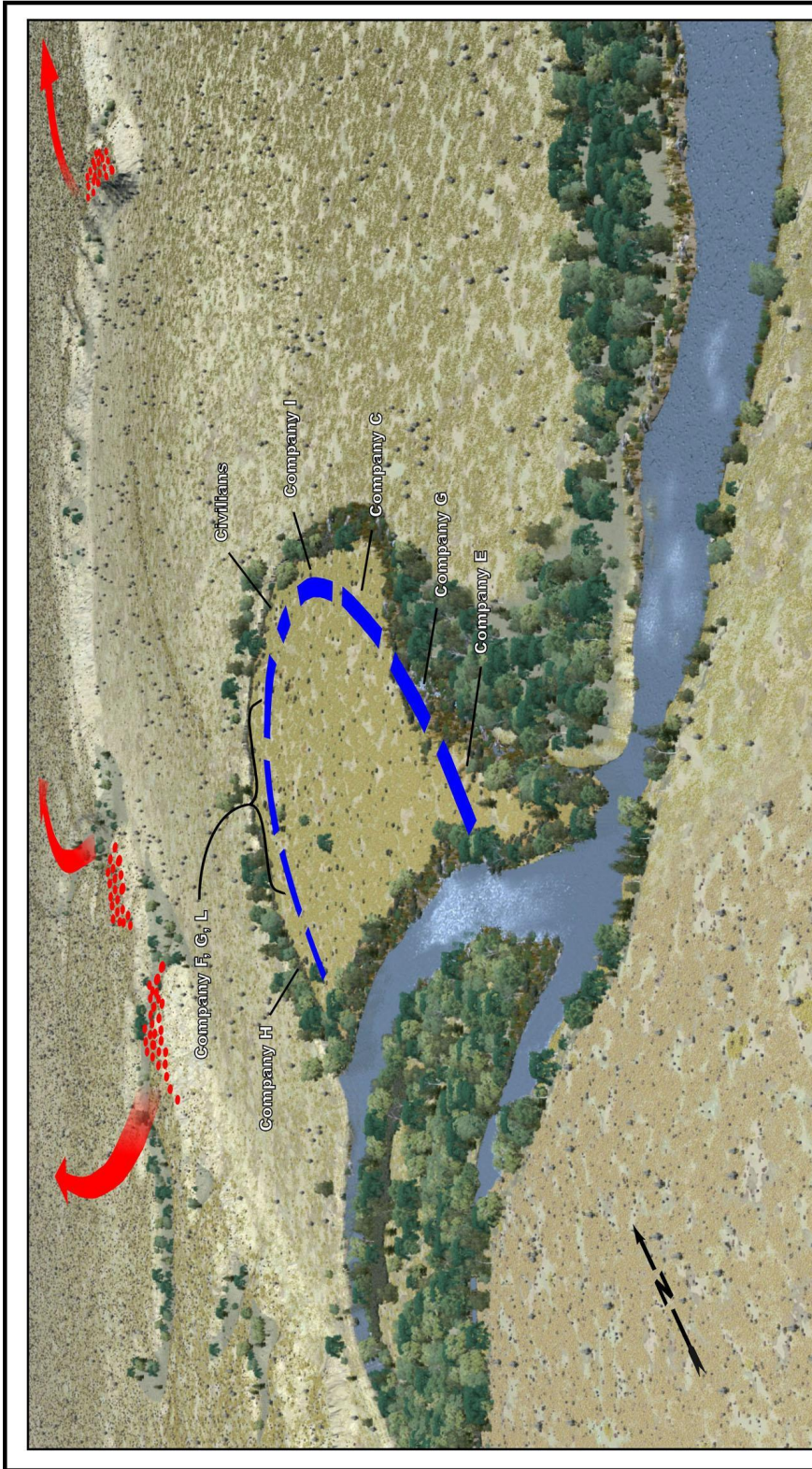


# BAKER'S BATTLE

Chronology of Events  
Phase 8

- 33** Sitting Bull smoking party. [6:30-6:50 a.m.]
- 34** Crazy Horse and White Bull engage in last dare rides. Crazy Horse's mount is killed, leaving Crazy Horse to run for the safety of the bluffs. [6:50-7:00 a.m.]
- 35** Indian firing ceases. [7:00-7:30 a.m.]



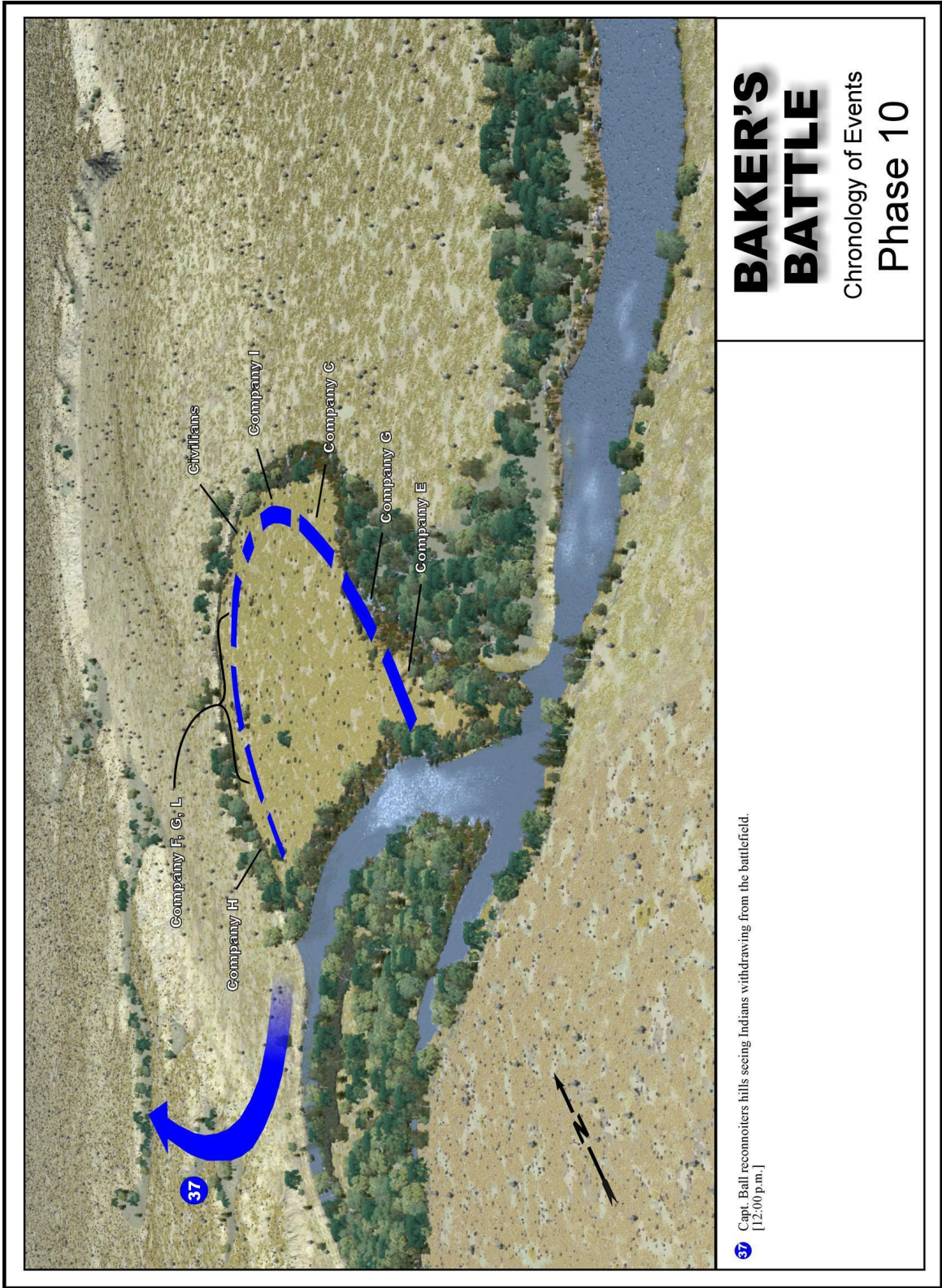


36 Indians move toward Pryor Creek. [7:30-10:00 a.m.]

# BAKER'S BATTLE

Chronology of Events  
Phase 9





37 Capt. Ball reconnoiters hills seeing Indians withdrawing from the battlefield. [12:00 p.m.]

# BAKER'S BATTLE

Chronology of Events  
Phase 10

## Endnotes: History of the Battle

1. Jack McDermott, contribution of noted historian to this report.
2. Brig. General W.F. Reynolds, Senate Executive Document. *Report on the Exploration of the Yellowstone River*. (Washington: GPO, 1868) 148 – 149.
3. Catherine Price, *The Oglala People, 1841 – 1879 A Political History* (Lincoln: University of Nebraska Press, 1996) 82.
4. <http://www.pbs.org/weta/thewest/wpages/wpgs640/ftlaram.html> *Archives Of The West: 1856-1868: “The Fort Laramie Treaty 1868”*.
5. Robert M. Utley, *The Lance and the Shield* (New York: Henry Holt and Company, 1993) 92.
6. For the text of the Treaty of 1868 see Charles J. Kappler, comp., *Indian Affairs: Laws and Treaties*, 2 vols. (Washington, D.C., 1904) II, 989 – 1007. See specifically Articles II and XI.
7. Brig. General W.F. Reynolds. General, Senate Executive Document. *Report on the Exploration of the Yellowstone River*. (Washington: GPO, 1868) 13.
8. Roberts, W. Milnor, Engineer-in-Chief, Northern Pacific Railroad, *Northern Pacific Railroad Preliminary Report of Engineer-in-Chief On Montana Surveys made in December, 1871, Office of Montana Surveys*, Helena, December 1, 1871, p. 14.
9. Ibid.
10. Ibid.
11. Letter from U.S. Special Agent Simmons, Milk River Agency to A.J. Vialle, Superintendent of Indians, Helena Montana, December 5<sup>th</sup>, 1871 *Letters Received by the Office of Indian Affairs, 1824 – 1880* (Montana Superintendency, 1872). National Archives Record Group 75 Microcopy 234, Roll 492.
12. Ibid.
13. Ibid.
14. Ibid.
15. Ibid.
16. Ibid.
17. Letter from Colonel David S. Stanley, Colonel, 22<sup>nd</sup> Infantry, District Commander to F.A. Walker, Commissioner of Indian Affairs, April 7, 1872 *Letters Received by the Office of Indian Affairs, 1824 – 1881* (Cheyenne Agency, (1871 – 1872). South Dakota State Archives Microcopy 234, Roll 127.

18. Letter from Colonel David S. Stanley to Assistant Adjutant General, July 30, 1871, *Letters Received by the Adjutant General's Office* (1871). National Archives Record Group 94 Microcopy 666, Roll 16.
19. Letter from General William T. Sherman to Lieutenant General Phil H. Sheridan, Sept. 26, 1872, *Sherman-Sheridan Papers*, Library of Congress.
20. *Report to the Commissioner of Indian Affairs, 1872*, 42<sup>nd</sup> Congress., 3<sup>rd</sup> Session. (Washington, GPO, 1872)
21. Letter from U.S. Special Agent Simmons, Milk River Agency to A.J. Vialle, Superintendent of Indians, Helena Montana, December 5<sup>th</sup>, 1871 *Letters Received by the Office of Indian Affairs, 1824 – 1881*. (1872) National Archives Record Group 75 Microcopy 234, Roll 392.
22. *The Report of Escort to Surveying party of N.P.R.R. commanded by Maj. E. Baker, 2<sup>nd</sup> Cavalry*, dated July 27<sup>th</sup> 1872. House Exec. Doc. 1, pt. 5 Serial 1560, p. 397, Utley, *Lance and Shield*, 106.
23. Letter from Colonel John Gibbon, 7<sup>th</sup> Infantry forwarded to the Headquarters of the Dept. of Dakota from Fort Ellis M.T., July 28<sup>th</sup> 1872 *Letters Received by the Adjutant General's Office* (1872). National Archives Record Group 95.
24. Major J.W. Barlow, *Letters from the Secretary of War*, 42<sup>nd</sup> Congress, 3d Session, Ex. Doc. No. 16, (Washington: Jan. 6, 1873) 2.
25. Ibid.
26. Ibid.
27. Ibid.
28. Major J. W. Barlow, *Letters from the Secretary of War*, 42<sup>nd</sup> Congress, 3d Session, Ex. Doc. No. 16, (Washington: Jan. 6, 1873) 3.
29. Ibid.
30. John S. Gray, *Custer's Last Campaign Mitch Boyer and the Little Bighorn Reconstructed* (Lincoln and London: University of Nebraska Press, 1991) 92.
31. Ibid.
32. Thomas B. Marquis, *Memoirs of a White Crow Indian* (Lincoln: University of Nebraska Press, 1974) 83.
33. Conversation with Howard Boggess, Historian of Crow Indian History, Billings, MT, November 22, 2003.
34. Edward J. McClernand, *On Time for Disaster, The Rescue of Custer's Command* (Lincoln and London: University of Nebraska Press, First Bison Printing 1989) 27.

35. Ibid. pp. 27 – 28.
36. Barlow, p. 6.
37. Ibid. pp. 6 – 7.
38. Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish: A Thrilling Incident in the Survey of the Northern Pacific Railroad,” *National Tribune*, August 11, 1904: 7.
39. Letters from U.S. Special Agent Simmons, Fort Peck, M.T. to General B.R. Cowan, Assistant Secretary Interior, December 8<sup>th</sup>, 1872. *Letters Received by the Office of Indian Affairs, 1824 – 1880* (Montana Superintendency, 1872). National Archives Record Group 75 Microcopy 234 Roll 492. The following letter corroborates Simmon’s letter to Gowan that states that Black Moon and Sitting Bull set out to strike the Crow Indians. Letter from J.W. Daniels, U.S. Indian Agent, Red Cloud Agency to F.A. Walker, Commissioner of Indian Affairs, Washington D.C. September 4, 1872. *Letters Received by the Office of Indian Affairs, 1824 – 1880* (Red Cloud Agency, 1872) South Dakota State Archives, Microcopy 234, Roll 716.
40. Vestal, Stanley, *New Sources of Indian History: 1850-1891* (Norman: University of Oklahoma Press, 1934) 169.
41. Letter from Theo. McKonis, Special Indian Agent, Cheyenne River Agency to F.A. Walker, Commissioner of Indian Affairs, May 4, 1872. *Letters Received by the Office of Indian Affairs, 1824– 1880* (Cheyenne River Agency, 1871-1872) South Dakota State Archives Microcopy 234, Roll 127.
42. Thomas B. Marquis, *Memoirs of a White Crow Indian* (Lincoln: University of Nebraska Press, 1974) 83.
43. Montana Newspaper Association Inserts, *Judith Basin County Press*, July 13, 1936.
44. Lt. James H. Bradley, *The March of the Montana Column: A Prelude to the Custer Disaster* (Norman: University of Oklahoma Press, 1991) 57.
45. Thomas B. Marquis, *Memoirs of a White Crow Indian* (Lincoln: University of Nebraska Press, 1974) 83.
46. Ibid.
47. Ibid. p. 58.
48. Ibid. p. 58 – 59.
49. Robert M. Utley, *The Lance and the Shield*, (Henry Holt and Company, 1993) 107 – 108.
50. Vestal, Stanley, *New Sources of Indian History: 1850-1891* (Norman: University of Oklahoma Press, 1934) 169.

51. Barlow, p. 7. According to White Bull, the Sioux warrior who was dragged into the soldier line was Plenty Lice. See Vestal, Stanley *Warpath*, p. 143 Note: There is not a Sgt. Wilkinson on the 2<sup>nd</sup> Cavalry Muster Rolls. However, there is a Private William Wilkinson present on the Company L, 2<sup>nd</sup> Cavalry Muster Roll. Regular Army Muster Rolls, 2<sup>nd</sup> US Cavalry, 1872 Co. L, National Archives Record Group 94 Box 910.
52. Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish: A Thrilling Incident in the Survey of the Northern Pacific Railroad” *National Tribune*, (August 11, 1904) 7.
53. Mark Brown, *Plainsmen of the Yellowstone*, (New York: G.P. Putman & Sons, 1961) 200. This account was given years after the fight. Gorman was referred to in Barlow’s account, p. 15. Jack Gorman, the wolfer was killed by Indians near Sandy Creek in the Spring of 1875. See *Helena Herald* May 6, 1875, p. 2, col. 4: See Topping, *Chronicles of the Yellowstone*, p. 256.
54. Bradley, p. 59.
55. McClernand, p. 29.
56. Telegram from Major E.M. Baker to Hon. J. Gregory Smith, President Northern Pacific Railway, Aug. 23<sup>rd</sup>, 1872 *Records of the U.S. Army Continental Commands, Letters Received* (1872). National Archives Record Group 393.
57. Douglas Scott, “*Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*”, Lincoln, Nebraska, July 22, 2001.
58. Bradley, p. 60.
59. Walter M. Camp, *Walter Mason Camp Files* Indiana University, Lilly Library, Box 4: Folder 1 (210 – 216).
60. Ibid. pp. 60 – 61.
61. Bradley, p. 61.
62. Ibid.
63. ibid.
64. Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish: A Thrilling Incident in the Survey of the Northern Pacific Railroad” *National Tribune* (August 11, 1904): 7.
65. Archeological evidence found by John M. Hawkins and David Eckroth prior to the Baker Battle Grant provide evidence of Major Baker’s campsite and the early actions of the battle on the Yellowstone, August 14, 1872.
66. Montana Newspaper Association Insert, *Judith Basin County Press* July 13, 1936.



67. Ibid.
68. Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish: A Thrilling Incident in the Survey of the Northern Pacific Railroad ” *National Tribune*, (August 11, 1904): 7.
69. Obituary of Joseph A. Widmer, *Helena Record-Herald*, September 11, 1930.
70. Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish” *National Tribune*, (August 11, 1904): 7.
71. ibid.
72. Widmer is in error as evidenced by the Surgeon’s report, which identifies the individuals with the shoulder and spine injury as William Francis.
73. Bradley, p. 61.
74. Ibid. The retreat along the soldiers’ lines to the bluffs suggests that the Indians were intent to continue the fight rather than be content upon a horse raiding party.
75. Observation at the battle site, while conducting a staff ride for the 1-190<sup>th</sup> Field Artillery Battalion Officers, Montana Army National Guard, John M. Hawkins noted that during this exercise the echo of rifle fire (blanks) from the Guardsmen positioned in the bluffs firing Springfield rifles, various models, (The Guardsmen were located in the Indian positions) heard by the National Guard Officers and visitors located in the soldier positions had the effect of multiplying the number of men seeming to fire down upon them. Bullets fired by the Indians had been found I all soldier positions which suggests a degree of intimidation.
76. Douglas Scott, “*Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*” (Unpublished Report).
77. Ibid.
78. Archeological evidence located in this portion of the battlefield (i.e. .50/70 cartridge casings fired by Sharps carbines) supports approximately 20 men on the skirmish line and approximately 10 men positioned as flankers along Captain Ball’s avenue of approach. (9 .50/70 cartridge casings were found approximately 20 feet apart along the ridge of a hill overlooking the battlefield, southeast of Captain Ball’s skirmish line.)
79. Barlow, p. 7.

80. Cartridge casings found by John Hawkins and Dave Eckroth at Indian Position # 4, Baker's Battlefield on the Yellowstone, August 14, 1872 provide evidence of a large concentration of warriors at this position of the battlefield. Appendix A: "*Firearms Identification of the Cartridge Casings and Bullets from the August 14, 1872 Baker Battlefield, Montana*" completed by Doug Scott and Section VI: Archeology of the Battle, Indian Position # 4 provides for the breakdown of specific numbers of weapons used at this Indian Position.
81. Montana Newspaper Association Inserts, *Judith Basin County Press* July 13, 1936.
82. McClermand, p. 29 – 30, see also Vestal, *Warpath* p. 138 – 139, and Barlow, p. 7. Note: Vestal describes the dare rides in *Warpath*: "Then the sun rose. We are going to make four circles toward the white soldiers, and each time we shall ride a little nearer to the enemy." Barlow makes note of the dare rides, stating, "the plain to our right, beyond the swamp, was seen swarming with red-skins charging in circles, and keeping up such a yelling as only they are capable of." McClermand discusses the Native Americans dashing in front of the cavalry positions; "and occasional rides of warriors down from the hills ..." which corresponds to Vestal's description.
83. Stanley Vestal, *Warpath* 1<sup>st</sup> ed. 1934, (Lincoln: University of Nebraska Press, 1984) 138 – 139.
84. Ibid. p. 139.
85. Ibid.
86. Vestal, *Warpath* p. 143.
87. Ibid. p. 141.
88. Ibid. pp. 139 – 140.
89. Ibid. p. 140.
90. Ibid. p. 141.
91. This statement is suggested by evidence of cartridge casings found by John Hawkins and Dave Eckroth far in front of the protection of the bluffs. These cartridge casings are the same style as those found behind the bluffs occupied by the Sioux and allied Indians.
92. A few cartridge casings found by John Hawkins and Dave Eckroth in front of Indian Position # 4, 5 and 6 provide evidence that certain warriors exposed themselves to the fire of the soldiers at Baker's Battle on the Yellowstone, August 14, 1872.
93. Vestal, *Warpath* p. 141.
94. Ibid. p. 142.
95. Ibid.
96. Ibid.

97. Vestal, p. 142.
98. Ibid. p. 143.
99. Ibid.
100. Barlow, p. 8.
101. Letter from J.W. Daniel, U.S. Indian Agent, Red Cloud Agency to F.A. Walker, Commissioner of Indian Affairs, Washington, D.C., September 4, 1872. *Letters Received by the Office of Indian Affairs, 1824 –1880* (Red Cloud Agency, 1872) South Dakota State Archives, Microcopy 234, Roll 716.
102. Surgeon's Report. *Record of Pension Office*, Filed in National Archives Record Group 94, among the Records of the Adjutant General's Office, File H36).
103. Obituary of Joseph A. Widmer, *Helena Record-Herald*, September 11, 1930.
104. E.S. Topping, *The Chronicles of the Yellowstone* (Minneapolis: Ross and Haines, Inc. 1968) 93.
105. Letters from Carlisle Boyd, Captain 17<sup>th</sup> Infantry, Commanding Post, HeadQrs U.S. Military Station, Cheyenne Agency D.T. to Assistant Adjutant General, Department of Dakota, September 6<sup>th</sup> 1872. *Records of U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received (1872) National Archives Record Group 393.
106. Letters from Col. John Gibbon, Fort Shaw to Major O.D. Greene, Assistant Adjutant General, September 7, 1872 *Records of the U.S. Army Continental Commands*, Military Division of Missouri, Letters Received 3597 (1872) National Archives Record Group 393.
107. Letters from U.S. Special Agent Simmons, Fort Peck, M.T. to General B.R. Gowan, Assistant Secretary Interior, December 8<sup>th</sup>, 1872 *Letters Received by the Office of Indian Affairs, 1824 – 1880* (Montana Superintendency, 1872) National Archives Record Group 75.
108. Vestal, *Warpath* 138 – 143.
109. Stanley Vestal, *New Sources of Indian History: 1850 – 1891* (Norman: (Norman: University of Oklahoma Press, 1934) 169 (Old Bull's account of Baker's Battle).
110. Letter from General Philip Sheridan to General-in-Chief, Headquarters, Military Division of Missouri, Chicago, Ill., September 25, 1872., *Letters Received by the Adjutant General's Office* (1872) Record Group 94.
111. Springfield and Sharps carbines are higher powered weapons than Henry or model 1866 Winchester rifles, which accounts for the greater range of those weapons.
112. Letter from Colonel John Gibbon, Fort Shaw, to Major O.D. Greene, Assistant Adjutant General, September 7, 1872. *Records of the U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received (1872) National Archives Record Group 393.

113. Barlow, p. 8.
114. Letter from President of Northern Pacific Railway, J. Gregory Smith to Major General Winfield S. Hancock, August 22, 1872 (Relating to letter from J.A. Hayden to J. Gregory Smith) *Records of the U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received # 2940 (1872) National Archives Record Group 393.
115. Letters from Major Baker, Fort Ellis, to Assistant Adjutant General, Department of Dakota, Saint Paul Minn., October 18<sup>th</sup> 1872. *Letters Received by the Adjutant General's Office* (1872) National Archives Record Group 94.
116. Barlow, p. 8.
117. Ibid.
118. Barlow, p. 9.
119. Ibid.
120. Ibid.
121. Ibid.
122. Ibid.
123. Ibid.
124. Ibid.
125. Barlow, p. 10.
126. Ibid.
127. Letter from Major E.M. Baker to the Assistant Adjutant General, Department of Dakota, October 18, 1872 *Records of the U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received #3597 (1872) National Archives Record Group 393.
128. Barlow, p. 10.
129. Alan Rolston, "The Yellowstone Expedition of 1873", *Montana Magazine of Western History* 22 (Spring 1970) 23 – 24.
130. Tyro, "The Yellowstone Expedition", *Army and Navy Journal*, (November 29, 1873) 250 – 251.
131. Smalley, p. 201.
132. Letter from Captain Carlile Boyd, 17<sup>th</sup> Infantry, Cheyenne River Agency to Assistant Adjutant General, September 6, 1872 *Records of the U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received #3597 (1872) National Archives Record Group 393.

133. Letter from the Secretary of the Interior to Secretary of War, 17 September 1872 *Records of the Adjutant General's Office* (1872) National Archives Record Group 94.
134. Letters from U.S. Special Agent Simmons, Milk River Agency to Superintendent of Indians, A.J. Vialle, Helena Montana, December 5<sup>th</sup>, 1871 *Letters Received by the Office of Indian Affairs, 1824 – 1880* (1872) National Archives Record Group 75 Microcopy 234, Roll 392.
135. Letter from General William T. Sherman to Lt. General Phil H. Sheridan, Sept. 26, 1872, *Sherman-Sheridan Papers*, Library of Congress.
136. Mark Brown, *Plainsmen of the Yellowstone* (New York: G.P. Putnam's Sons, 1961) 201.
137. McClernand, p. 30.
138. Bradley, p. 57.
139. Letter from Peter Koch to wife, Laurie, September 7, 1872, *Christian D. Koch Papers, 1829 – 1912* Louisiana State University, Special Collections.
140. Letter from Colonel John Gibbon, 7<sup>th</sup> Infantry to Major O.D. Greene, Assistant Adjutant General, August 19, 1872 *Records of the U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received # 2940 (1872) National Archives Record Group 393.
141. Letter from Lieutenant General P. H. Sheridan to Major General Winfield S. Hancock, August 20, 1872 *Records of the U.S. Continental Commands*, Military Division of the Missouri, Letters Sent. National Archives Record Group 393.
142. Letter from Colonel David S. Stanley, 22<sup>nd</sup> Infantry to the Assistant Adjutant General, Department of Dakota, *Letters of the U.S. Army Continental Commands*, Records of the Middle District of the Department of Dakota, 1871-1872 National Archives Record Group 393 Entry 334.
143. Ibid.
144. Ibid.
145. Ibid.
146. Brevet Major General George W. Cullum, *Biographical Register of the Officers and Graduates of the U.S. Military Academy at West Point, N.Y. From its Establishment in 1802 to 1890, With the Early History of the United States Military Academy* Third ed. Vol. III. No. 2001 – 3384. (Boston and New York: Houghton, Mifflin and Company, The Riverside Press Company, 1891) 3429.
147. Ibid.
148. Major Joseph I. Lambert, *One Hundred Years with the Second Cavalry*, By the Commanding Officer, Second Cavalry (Fort Riley, Kansas, Press of the Capers Printing

- Company, Inc. 1939) 113 and Cullum, p. 3429.
149. Cullum p. 3429.
150. Francis B. Heitman *Historical Register and Dictionary of the United States Army* Vol. 1 p. 184
151. Ibid.
152. Paul Hutton, “Phil Sheridan’s Pyrrhic Victory The Piegan Massacre, Army Politics, and the Transfer Debate” *Montana Magazine of Western History*, Vol. 32, No. 2, (Spring, 1982) 39.
153. Robert J. Ege, *Tell Baker to Strike Them Hard! Incident on the Marias, 23 Jan.* (Bellevue, Nebraska: The Old Army Press, 1970) 64.
154. Ege, p. 54.
155. Ibid. p. 64.
156. Ibid. p. 55.
157. Letter from Sheriff John Guy to Major E.M. Baker, August 23, 1872 *Records of the United States Army Commands*, Selected Letters Received, 1867 – 1886 Fort Ellis, Montana. National Archives Record Group 98.
158. Letter from Sheriff John Guy to Major E.M. Baker, August 2(?), 1872. *Records of the United States Army Commands*, , Selected Letters Received, 1867 – 1886 Fort Ellis, Montana. National Archives Record Group 98.
159. Barlow, p. 15.
160. Montana Newspaper Association Inserts, *Judith Basin County Press* July 13, 1936.
161. Frank Leslie, *History of Montana 1739 – 1885*, Chicago, Warner, Beers and Company, 1885, taken from Montana Historical Directory of 1879 See: *Helena Herald* May 6, 1875, p. 2, col. 4: Topping, *Chronicles of the Yellowstone*, p. 256.

Note: Map of the Fort Laramie Treaty of 1868 (The Great Sioux Reservation) on page 24 was taken from the War Department Map of the Yellowstone and Missouri Rivers, revised by Maj. G.I. Gillespie, U.S. Engineer, Brevet Lt. Col. U.S.A. Chief Engineer, Military Division of the Missouri, 1876, Montana Military Institute, *Charles H. Springer Papers, 1865-1890*. Treaty boundaries, unceded hunting lands, and major features sketched on original based on observations from Map Titled “Fort Laramie Treaty Land” on the following web site, <http://www.dickshovel.com/1868/html>.

Map of Major Baker’s Camp on the Yellowstone River, August 14, 1872 on page 34 was taken from Major J. W. Barlow, *Letters from the Secretary of War*, 42<sup>nd</sup> Congress, 3d Session, Ex. Doc. No. 16, (Washington: Jan. 6, 1873).

Map of Expedition found on page 73 taken from National Archives Record Group 94, *Records of the Adjutant General’s Office*, Letters Received # 3323 (1872).

Billings East Quad Map found on page 74 (Baker's Battlefield is located on Sections 5, 6, 7, and 32 of T1N, R27E, Principal Meridian. <http://nris.state.mt.us/scripts/esrimap.dll>.

### **c. Timeline Sources**

The following sources are provided so that the readers can examine how the authors developed the Timeline of Baker's Battle on the Yellowstone. The following quotes are the key material in the construction of the timeline.

#### **Pre-Battle Sources:**

"... Col. Baker established camp on the river bottom, in high grass, facing the buttes and foothills. With the Yellowstone at his back and 200 yards in front partially surrounded by a semicircle of bushes and cottonwood trees, a slough with considerable water therein." Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), "An Indian Skirmish" *National Tribune* 11 August 1904: 7.

"... the following day, the 13<sup>th</sup> was spent by the command in trout fishing and necessary laundry labor, the river affording the best facilities for that, and the day being partially clear and very warm, the thermometer reaching 90." Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), "An Indian Skirmish" *National Tribune* 11 August 1904: 7.

#### **Phase 1 Sources:**

"The company (Co. C), with Co's I, G, E 7<sup>th</sup> Infantry and Co's G, L, H and F 2<sup>nd</sup> Cavalry were surprised by, from 800 to 1000 hostile Cheyenne and Sioux Indians, on the morning of August 14<sup>th</sup>, near Pryor's Creek on the Yellowstone River. Their engagement lasted about 4 hours, when the enemy drew off." Muster Roll Company "C" of the Seventh Regiment of Infantry From the 31st day of June, 1872 to the 31st day of August, 1872. Signed by W.L. Quinton, 1<sup>st</sup> Lieutenant, Commanding the Company, at Musselshell River, M.T., August 31, 1872. *Regular Army Muster Rolls, 7<sup>th</sup> US Infantry 1872 Co. C*, National Archives Record Group 94 Box 204.

"Being on the Yellowstone Expedition Escort to the Surveying party of the N.P.R.R. had an engagement with Indians which lasted about four hours – with the other companies of the Expedition on the 14<sup>th</sup> of August, while in camp on the Yellowstone near Pryor's Creek." Muster Roll Company "E" of the Seventh Regiment of Infantry From the 30th day of June, 1872 to the 31st day of August, 1872. Signed W.L. Reed, 1<sup>st</sup> Lieutenant, 7<sup>th</sup> Infantry, Commanding the Company, at Musselshell River, M.T., August 31, 1872. ,

*Regular Army Muster Rolls, 7<sup>th</sup> US Infantry 1872 Co. E National Archives Record Group 94 Box 208.*

“Company was engaged with Companies “E”, “C” and “I” 7<sup>th</sup> Infantry in a fight with a warparty of Sioux Indians on the 14<sup>th</sup> of August 72, on the Yellowstone River near Pryors Fork.” Muster Roll of Company “G” of the Seventh Regiment of Infantry From the 30<sup>th</sup> day of June, 1872 To the 31<sup>th</sup> day of August, 1872. Signed by George L. Browning, Captain, 7<sup>th</sup> Infantry, Commanding the Company, at Musselshell River, M.T., August 31, 1872. *Regular Army Muster Rolls, 7<sup>th</sup> US Infantry Co. G National Archives Record Group 94 Box 212.*

“The Company being on the “Yellowstone Expedition” Escort to the Surveying Party of the N.P.R.R., had an engagement with Indians which lasted about four hours, on the 14<sup>th</sup> of August 1872 while in Camp on the Yellowstone near Pryor’s Creek, M.T.” Muster Roll of Company “I” of the Seventh Regiment of Infantry From the 30<sup>th</sup> day of June, 1872 To the 31<sup>th</sup> day of August, 1872. Signed Charles C. Rawn, Captain, 7<sup>th</sup> Infantry, Commanding the Company, at Musselshell River, M.T., August 31, 1872. *Regular Army Muster Rolls, 7<sup>th</sup> US Infantry Co. I National Archives Record Group 94 Box 216.*

“On the morning of August 14, 1872 at 2:40 A.M. while in camp on the Yellowstone River, the camp was attacked by about 800 Indians, supposed to be Sioux and Kiowas, the attack lasted until 6:30 A.M. when the Indians dispersed, leaving two dead upon the field. Our loss Infantry, One sergeant killed, one private wounded. Cavalry, Co. “F” one private wounded, Co. “L” one private wounded, six horses killed and wounded.” Muster Roll of Company “F” of the 2<sup>nd</sup> Regiment of Cavalry From the 30<sup>th</sup> day of June, 1872 To the 31<sup>th</sup> day of August, 1872. Signed Geo. L. Tyler, Captain, 2<sup>nd</sup> Cavalry, Commanding the Company, in the field, Musselshell River, M.T., August 31, 1872. *Regular Army Muster Rolls, 2<sup>nd</sup> US Cavalry Co. F. 1872 National Archives Record Group 94 Box 900.*

“... attacked by Indians on the morning of August 14, 1872, supposed to be between six (600) or eight (800) in number, fought – three (3) hours, Indians retreat . No wounded, No killed.” Muster Roll of Company “G” of the 2<sup>nd</sup> Regiment of Cavalry From the 30<sup>th</sup> day of June, 1872 To the 31<sup>th</sup> day of August, 1872. Signed S. H. Norton, Captain, 2<sup>nd</sup> Cavalry, Commanding the Company, at camp 25 on the Musselshell River, M.T., August 31, 1872. *Regular Army Muster Rolls, 2<sup>nd</sup> US Cavalry 1872 Company G, National Archives Record Group 94 Box 902.*

“On the morning of August 14<sup>th</sup> at 2:40 O Clock while encamped on the Yellowstone River the cap was attacked by about 800 Indians supposed to be Sioux and Kiowas, the attack lasted until 6:30 A.M. when the Indians dispersed leaving dead upon the field. Our loss Infantry one (1) Sergeant killed and (1) private wounded Cavalry one (1) private Co. “F” and one (1) private Co. “L” wounded and six horses killed and wounded.” Muster Roll of Company “H” of the 2<sup>nd</sup> Regiment of Cavalry From the 30<sup>th</sup> day of June,



1872 To the 31th day of August, 1872. Signed Ed Ball, Captain 2<sup>nd</sup> Cavalry, Commanding the Company at Camp No. 25 on the Musselshell River, M.T., August 31, 1872 *Regular Army Muster Rolls*, 2<sup>nd</sup> US Cavalry 1872 Co. H, National Archives Record Group 94 Box 904.

“At daylight on the morning of August 14<sup>th</sup> the Camp was attacked by a large band of Sioux Indians; but after fighting about 4 hours, they were driven off with heavy loss. Casualties in the Company – Private Ward – wounded in the head, and 1 horse wounded – (since dead.)” Muster Roll of Company “L” of the 2<sup>nd</sup> Regiment of Cavalry From the 30th day of June, 1872 To the 31th day of August, 1872. Signed Lewis Thompson, Captain, 2<sup>nd</sup> Cavalry, Commanding the Company in the field, Camp No. 25 on the Musselshell River, M.T., August 31, 1872. *Regular Army Muster Rolls*, 2<sup>nd</sup> US Cavalry 1872 Co. L, National Archives Record Group 94 Box 910.

“... commencement of the attack (2:30) and during its continuance for several hours ...” Letter from John Gibbon, Col. 7<sup>th</sup> Infantry Hd. Qrs. Dist. of Montana Ft. Ellis M.T. to Maj. O.D. Greene A.A.G. August 19<sup>th</sup>, 1872 *Records of the U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received # 2940 (1872) National Archives Record Group 393.

“At about 2:45 o’clock on the morning of the 14<sup>th</sup> inst. The camp was attacked by a war party of Sioux and Cheyenne Indians.” *7<sup>th</sup> Infantry Regimental Returns for the month of August, 1872* National Archives Record Group 393, Reel 92.

“Yesterday morning at a quarter till 3 O’clock a.m., the Sioux attacked our camp in large force, numbering no less than 450 warriors. They tried hard to get our mules, which were out some 300 yards from the corral, but our herders and four cavalrymen, who were on picket at the time, held out against heavy fire until the officer of the guard, Lt. Logan, with his guard came to the rescue and got all the mules safe and sound into the corral. During a heavy fire which lasted three hours, in which bullets frequently hit the wagons, but one soldier was killed and four wounded, one of them a citizen (follower) fatally wounded.” Matt Carroll “Sharp Attack and a Hot Time. Repulse of the Indians.” *New Northwest* August 24, 1872.

“... about 3 A.M. of the 14<sup>th</sup>, the command was attacked by a band of Sioux and Cheyennes variously estimated at 400 to 1000.” Letter From E.M. Baker, Major 2<sup>nd</sup> Cavalry, Fort Ellis M.T. to AAG, Department of Dakota, October 18, 1872 *Records of U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received (1872) National Archives Record Group 393.

“This morning about 3 O’clock the command was startled by the report of several rifle-shots, and in a few minutes a lively firing was opened by our sentinels along the line facing the slough. It was evident that the Indians were making a night attack. The guard at once turned out and commenced driving in the mules that were out “on herd”. *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“The fight commenced at 3 a.m. on August 14<sup>th</sup> and lasted about three hours.” Telegram from Eugene M. Baker, Major 2<sup>nd</sup> Cavalry to John Gibbon, Colonel, 7<sup>th</sup> Infantry, *Records of U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received # 3597 (1872) National Archives Record Group 393.

“This morning we have the following – attacked at three A.M. by Northern Arapahos (sic) and Cheyennes attack persistent and brave ...” Telegram by J.A. Hayden, Assistant Engineer to Major General Winfield S. Hancock, August 22<sup>nd</sup> 1872 *Records of U.S. Army Continental Commands*, Military Division of the Missouri, Letter Received # 2940 (1872) National Archives Record Group 393.

“Our Camp near Mouth of Pryor’s River was attacked at three o’clock Yesterday Morning by a party of Sioux, Cheyenne and Arapahoe. Attack lasted Three hours.” Telegram from J.W. Barlow, Major U.S. Army to Lt. Col. J.B. Frey AAG, dated Camp Near Pryor’s Fork, August 5, 1872 *Records of U.S. Army Continental Commands*, Military Division of the Missouri. Letters Received, # 2763 (1872) National Archives Record Group 393.

“Pickets were posted along the slough, and the wagons, perhaps a hundred in number, were parked in the form of an ellipse with one end open, so as to form a corral into which the wagon mules, left out to graze during the night, could be easily driven if necessary. ... The night was dark and about three o’clock on 14<sup>th</sup> a few Indians succeeded in passing through the picket line unobserved, but while they were trying to turn the loose mules in a convenient direction to start them into a run for the hills their presence was discovered by our herders. The darkness prevented the Indians from distinguishing the herders as white men, and the latter guided the head of the herd into the corral, so that when the rush came the mules in rear, following those in advance, ran in among the wagons and were secured. At this moment the red men were seen and fired upon by a member of the inner guard. This shot was quickly followed by others, and cries of, “Indians, here they come,” were heard on all sides as officers and men were awakened and sprang to arms.” McClernand, pp. 28 – 29.

“Toward 3 O'clock Lt. Logan makes the rounds of his sentinels, finding all quiet. Soon afterwards from the timber at different points along the landward side of the slough the

Indians opened fire and advanced upon the island to attempt to capture the beef herd. In a moment the boldest of them were mingled with the animals, but the few men posted over the herd stood their ground manfully, opening a rapid fire upon their assailants at close range, and at the same time endeavoring to put the herd in motion toward the corral. The guard was instantly under arms,. By judicious management the animals were driven gently to the rear, the Sioux who had sought to stampede them begin forced by the fire of the guard to fall back. A few moments sufficed to enable Lieutenant Logan to throw his entire guard between the Sioux and the herd, where deployed as skirmishers and lying down in the long grass the men opened fire upon the moving forms dimly seen before them in the gloom. After the first volley the Sioux maintained a scattering fire, but the unexpectedly hot reception given them by the guard soon caused them to retire from the timber to the open ground beyond and, within a few minutes after the attack began, the ground was cleared of them and their fire had subsided into a few straggling shots.” Bradley, p. 59.

“Aroused from sleep in the chilly morn by the yells of the Indians and shots from their rifles, we rushed out to see a blaze of fire from right to left.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish” *National Tribune*, 11 August 1904): 7.

“Camp of the Surveying Party of the Northern Pacific Railroad attacked by Sioux, Northern Cheyenne and Arapahos” Telegram from P.H. Sheridan, Lieutenant General to Brigadier General E.D. Townsend dated August 17, 1872, *Records of Adjutant General's Office, Letters Received # 3323(1872)* National Archives Record Group 94.

“The principal attack seemed to come from the right, where Captain Bacon’s battalion of Infantry soon deployed and poured several volleys into the thicket, in which the Indians were massed in considerable force.” *Letter from the Secretary of War, transmitting the report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“On the left a small squad of citizens who had been traveling under our protection, were in camp. The Indians fell upon them early in the fight, and succeeded in capturing a fine rifle and some ammunition from one of the tents. Near this point an Indian was shot by one of the citizens, and afterwards killed by a soldier of Captain Thompson’s company. The Indian’s body was dragged within our lines.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“Meanwhile the herders conducted the animals to the rear, where without confusion they were driven into the corral and rendered secure, none having been lost, except 15 head of beef cattle which stubbornly refused to move with the herd and fell into the hands of the Sioux. When the firing began, the citizen prospectors, some twenty in number, seized their arms and took an advanced position on the left of the guard, where with Lieutenant Jacob at their head they took cover and opened battle on their individual account. The Sioux speedily recovered and from their first repulse and returned to the attack, reoccupying the timber and appearing in considerable numbers on the open ground in front of the guard. But the citizens with Lieutenant Jacobs poured in a rapid fire upon their flank while the guard received them firmly in the front, handling their breech-loaders with such effect that again the Indians speedily withdrew.” Bradley, pp. 59 – 60.

“At the first alarm the troops had promptly formed in their company streets and awaited the orders of the officer in command. As soon as the Infantry battalion was under arms, Captain Rawn, its commander, reported to Major Baker for orders and found him in bed, stupefied with drink, skeptical to the presence of an enemy, and inclined to treat the whole alarm as a groundless fright upon the part of the guard. It was difficult to get any order from him, but at last he directed Captain Rawn to hold his men in camp; and, disgusted and angry, that officer returned to his command and upon his own responsibility deployed Company E (Lt. Reed) and Company G (Captain Browning) in line on the lower side of the camp, facing the thicket in which the ambushade had been formed. Lt. Reed occupied the right, with his right flank resting on the stream, and thus posted, the men of both companies lay down in the tall grass. As bullets were flying freely through the camp, the remainder of the command was ordered to lie down in their company streets.” Bradley, p. 60.

“Colonel Baker not believing the attack real and more of a frightless scare of one of the sentries, sends Captain Thompson out to verify the situation.” Bradley, p. 60.

### **Phase 2 Sources:**

“It was difficult to get any order from him (Major Baker), but at last he directed Captain Rawn to hold his men in camp; and, disgusted and angry, that officer returned to his command and upon his own responsibility deployed Companies E (Lieut. Reed) and G (Captain Browning) in line on the lower side of the camp, facing the thicket in which the ambushade had been formed.” Bradley, p. 60.

“As bullets were flying freely through the camp, the remainder of the command was ordered to lie down in their company streets.” Bradley, p. 60.

### Phase 3 Sources:

“Captain Thompson finds the attack real, almost losing his life, reports to Baker.”  
Bradley, p. 60.

“Baker sends Lt. Hamilton and a detachment to reinforce Lt. Logan on guard duty.”  
Bradley, p. 60.

“Captain Rawn at last receives tardy orders to deploy his command, and therupon places Company C (Lt. Quinton) in position on the left of the line already formed, and his own Compnay I, on the left of C, and then by extending intervals to the left caused the four companies of infantry to cover about half the front, the citizens and cavalry continue the line to the left till it enveloped the camp. The deployment was effected within about half an hour after the beginning of the attack.” Bradley, p. 61.

“Captain Rawn, assuming charge of the Infantry adopted a plan on the left that proved a good one and showed he had knowledge of his business. Giving orders to refrain from firing, he marched these companies to a point about 25 yards from camp and gave the order to lie down. Each remained in his position for what seemed like an age, but was probably not over 15 minutes. During this time the glare of the Indian gun fire – they fired high - and the warhoops plainly showed that a good sized band were before us, and that we were outnumbered four or five to one. Their aim, however, was wild, they fired over us every shot, and they showed no disposition to charge.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

“But one dead Indian fell into our hands, and this remarkable young brave rode courageously into our front early in the skirmish. He yelled and mentioned for others to follow, but they seemed to lack the necessary courage. Mounted on a white pony, he charged toward the cavalry companies, and was shot by Serg’t Wilkinson, 2<sup>nd</sup> U.S. lay undisturbed until after the skirmish then it was discovered that he was a brave of some importance. Clothed in a cast-off officers dress coat probably obtained at some post with headress reaching almost to his heels, and armed with two good Colts, cal. .44, he presented a warlike aspect.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

“During the night (3 A.M.) he (Jack Gorman) was lying awake and saw what he thought was a bunch of feathers moving and watching for a second or two found that the feathers had an Indian’s head in them. He cocked his revolver and without moving his body shot the Indian through the head. The Indian that Jack Gorman killed was crawling just in

front of a big outfit of Indian. He had on just his breech cloth, mocassins and war bonnet.” Brown, p. 200.

“Plenty Lice was the only one killed. He was killed near the soldier line that the Indians could not recover his body.” Vestal, *Warpath* p. 143.

#### **Phase 4 Sources:**

“At daybreak, on the left the command was given by Captain Rawn to rise and fire. The Infantry rose and poured volley after volley into them; men were kept busy bringing out ammunition, and the concentrated fire of both cavalry and infantry was terrific. Every man stood his post, and the order was given to charge the bushes and slough. This was done with cheers and yells by the troops, and the Indians weakened, retreating to the bottomland beyond.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

“The principal attack seemed to come from the right, where Captain Bacon’s battalion of Infantry soon deployed and poured several volleys into the thicket, in which the Indians were massed in considerable force. These Indians were at length driven from their cover; and were seen scampering across the open field and getting beyond the range of our guns as rapidly as possible. In the meantime the mules were driven in by the guard and safely corralled within the inclosure formed by our wagons.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“As left guide the writer lay on the left of his company and frequently the balls would throw grass and mud into his face, as was noticed by Capt. Browning lying beside me, who remarked that they seemed to be firing lower. At this time, Serg’t John McClarren Co. C being away from his position, evidently started to join his command, thinking to do so by a few steps, and as he arose and passed me he was struck by a ball that passed through his head between the eyes, killing him instantly. During this time the Indians were yelling and firing, though but few could be seen in the early morning light, and to the surprise of the camp, although greatly outnumbering us.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

## Phase 5 Sources:

“The Infantry rose and poured volley after volley into them; men were kept busy bringing out ammunition, and the concentrated fire of both cavalry and infantry was terrific. Every man stood his post, and the order was finally given to charge the brushes and slough. This was done with cheers and yells by the troops, and the Indians weakened, retreated to the bottomland beyond.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

“We soon pressed forward and regained the timber along the slough, from which the pickets had retired. The Indians did not try to hold it, as might have been expected; they were, perhaps, surprised in their turn at the promptness and vigor of our defense. The semicircle of trees once more in our possession we felt comparatively safe” McClernand, p. 31.

“It was now growing light, and seeing the movement of the troops toward the point of the attack, but ignorant that while it was yet dark two whole companies had taken foreword, but ere they emerged into view Lt. Reed discovered the movement in the sudden rustling and swaying of the willows in his front, and promptly swept the covert with his fire, pouring three volleys by company into the timber ... Indians swarmed from the timber like bees and spurred their horses away for the bluffs in headlong flight. As they passed the remainder of the line, Companies C, G, and I also opened fire and completed their utter discomfiture.” Bradley, p. 61.

“We now took position behind cottonwoods and bushes, and fought them for 20 minutes or more, using tree trunk for a gun-rest and shelter. Many wounded Indians had reached the edge of the timber, and the main body stopped firing, devoting their energies to carrying off their wounded, as to leave them in the hands of the enemy was a deep disgrace; and they displayed great skill in horsemanship, as they would throw themselves onto the pony’s side, showing only one leg – a small mark at 300 to 400 yards, while others quickly dismounted and threw a wounded brother on to the saddle. Soon after they retreated to the foothills, and for two hours could be seen forming in line, apparently, and spreading into column not over three-quarters of a mile.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

## Phase 6 Sources:

“Every available point on the bluffs in our front for a mile in extent was occupied by them, while from the various ravines and other places of ambush came rifle-balls often sent with the most unpleasant precision. The whole force was variously estimated from

five hundred to one thousand.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“The bluffs above were lined with savages who, together with those nearer at hand, kept up a continual firing upon our camp. Bullets penetrated our tents, struck three or four men, killed two horses on the picket-line, and wounded several mules. During all this time it was too dark to estimate the force of the Indians, or even conjecture what their plans might be.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“Lieutenant Grugan (sic), Second Cavalry, with fifteen men of his company, mounted, went part way up the bluffs, directly in front.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“Captain Ball, of the Second Cavalry, with his company dismounted, went out on the left, and drove the enemy from the bluffs in that direction. The Indian headquarters seemed to have been established upon a prominent bluff on the left of their line, from whence couriers were frequently dispatched. This point and other bluffs in its vicinity were densely crowded with Indians during the fight, and remained in their possession for several hours after daylight.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

#### **Phase 7 Sources:**

“The savages, dashing about on their ponies in our immediate front, kept up an unearthly and diabolical noise, but as it grew brighter they retired to the bluffs.” McClermand, p. 31.

“Occasionally a daring warrior would dash down from the hills and ride his pony at full speed along our front. I do not recall that any were killed, but several were wounded.

One pony was killed; his rider was picked up by two braves dashing along in rear, and by them carried away, one on either side of the dismounted warrior.” McClermand, pp.31 – 32.



### **Phase 8 Sources:**

“At about 6:30 a.m. Sitting Bull and four other warriors engaged in a smoking party. This activity was seen by some as Sitting Bull’s bravest deed. His actions influenced the warriors to end the fight thus saving ammunition for hunting and future fights.” Vestal, *Warpath* pp. 141 – 143.

Crazy Horse and White Bull complete last dare ride. Crazy Horse’s pony was shot dead. Crazy Horse runs to safety of the bluffs. Vestal, *Warpath* p. 143.

“The firing ceased about 7 o’clock, and though the fight was over ... They left two dead bodies, and ten or twelve dead ponies. Our casualties were as follows: One sergeant of the Seventh Infantry, killed shot through the head; one private same regiment, wounded in leg; Private Ward, Second Cavalry; supposed mortally wounded, shot through eye and head; Private Cox, same regiment, driver of headquarters wagon, also thought to be mortally wounded, shot through the bowels; one of the citizens mortally wounded, shot through the upper part of body and spine. Eight animals were stolen, two horses killed, and all the beef cattle, about fifteen in number, driven off.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

### **Phase 9 Sources:**

“At half past six a.m., the Indians drew off and disappeared down the valley.” McClernand, p. 32.

“Soon after they retreated to the foothills, and for two hours could be seen forming in line, apparently, and spreading into column not over three-quarters of a mile away. From this point at about 11:00 a.m., they moved east, rapidly driving the beef-herd, stampeded from the command.” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

### **Phase 10 Sources:**

“At half past six a.m., the Indians drew of and disappeared down the valley. Captain Ball, with two troops, was sent to observe the retiring enemy, but the latter rode rapidly and were soon lost to sight.” McClernand, p. 32.

“Between 7:00 and 2:00 struck camp, buried Sgt. McClarren, took care of wounded, wrote telegrams, etc. “The fire was kept from this time until about 7:30 A.M. when the Indians withdrew.” *7<sup>th</sup> Infantry Regimental Returns for the month of August 1872* National Archives Record Group 393, Reel 92.

“Soon after they retreated to the foothills, and for two hours could be seen forming in line, apparently, and spreading into column not over three-quarters of a mile away. From this point at about 11:00 a.m., they moved east, rapidly driving the beef-herd, stampeded from the command. Col. Baker did not consider it advisable to follow them, as there appeared to be a force of 2,000 warriors at least, but sent a squadron of the 2<sup>nd</sup> U.S. Cav. To watch their course. .” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

“Toward noon a reconnaissance was made by Captain Ball; with his company mounted, which revealed the fact that the Indians had all left our immediate vicinity. About 2:00 p.m. we broke camp, the engineers resumed their survey for three miles, and the command moved down the river and encamped on its trees.” *Letter from the Secretary of War, transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16.

“Our losses in the engagement was as follows. One Sergeant of “L” Company 7<sup>th</sup> Infantry killed and two Cavalrymen and one Infantryman wounded, One citizen was also wounded and afterwards died. 15 beef Cattle and four Mules were driven off by the Indians. And two Cavalry horses died from the effects of wounds. The bodies of two Indians was found on the field and fourteen dead ponies.” Letter from E.M. Baker, Major 2<sup>nd</sup> Cavalry, Fort Ellis M.T. October 18, 1872 to AAG, Department of Dakota, *Records of Adjutant General’s Office*, Letters Received (1872) National Archives Record Group 94.

“Sergeant James McClarren, Co. “C” 7<sup>th</sup> infantry was struck in the head by a bullet and almost instantly killed and private Thomas O’Malley, Co. “E” 7<sup>th</sup> Infantry was wounded in the leg (seriously). The fire was kept up until about 7:30 A.M. when the Indians withdrew. From the darkness of the morning it was impossible to correctly estimate the number of Indians engaged, but it has been variously estimated at from 400 to 1000. Only 2 bodies were found on the field.” , *7<sup>th</sup> Infantry Regimental Returns for the month of August, 1872* National Archives Record Group 393, Reel 92.

“The attack continued for three hours when the Indians mentioned withdrew, taking with them all the beef cattle of the command. Baker lost 5 men and eight horses. The march

of he command was resumed, but much apprehension is felt of additional trouble when the expedition pushes further down the valley.” Telegram from P.H. Sheridan, Lieutenant General, to Brigadier General E.D. Townsend, August 19<sup>th</sup>, 1872 *Records of the Adjutant General's Office*, Letters Received # 3323 (1872) National Archives Record Group 94 .

“Yellowstone Party were attacked at Pryor (sic) creek, August fourteenth (14) by four hundred (400) Arapahos (sic) Indians one (1) citizen wounded fourteen (14) beef cattle and five head of U.S. stock lost.” Telegram from N.G. Hutchee, Acting Assistant Adjutant to Major General Winfield S. Hancock, August 22<sup>nd</sup> 1872 *Records of U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received # 2940 (1872) National Archives Record Group 393.

“... our losses were five men Eight animals besides all our beef cattle.” Telegraph from J.W. Barlow, Maj. U.S. Army to Lt. Col. J.B. Fry A.A.G. dated Camp near Pryors Fork, August 15<sup>th</sup>, 1872. *Records of the Adjutant General's Office*, Letters Received (1872) National Archives Record Group 94.

“Indians were repulsed, one (1) soldier killed and three (3) badly wounded; also one (1) citizen wounded, two (2) horses killed and sixteen-(16) head of beef cattle and four (4) mules captured. Number of Indians killed not known, from appearances there must have been quite a number. Several Indian horses killed and captured.” Telegram from Eugene M. Baker, Major 2<sup>nd</sup> Cavalry Commanding Expedition to AAG Military Division of the Missouri. *Records of the U.S. Army Continental Commands*, Military Division of the Missouri. Letters Received, # 2763 (1872).National Archives Record Group 393.

“But one dead Indian fell onto our hands...” Fred W. Minscher (Co. G. 7<sup>th</sup> U.S. Infantry), “An Indian Skirmish,” *National Tribune*, 11 August, 1904: 7.

“The number of Indians killed and wounded is not known – Two dead bodies and fourteen dead ponies were found on the field. The number of Indians engaged was variously estimated at 400 to 1000.” Letter from E.M. Baker, Major 2<sup>nd</sup> Cavalry, Headquarters Fort Ellis, M.T. to John Gibbon, Colonel 7<sup>th</sup> Infy. Commanding, Headquarters District of Montana Fort Shaw, M.T. Oct 24, 1872. *Records of the U.S. Army Continental Commands*, Military Division of the Missouri, Letters Received # 3597 (1872) National Archives Record Group 393.

“There were two Brules killed and a great many wounded, that Spotted Tail's brother, “Hawk Dog”, was wounded in the fight and died after getting back to camp, that the other one killed was the Lame Deer's nephew, a Minneconjou. And also that a number of their

horses were killed by the soldiers, also that there where Cheyennes and San Arc Indians in the fight...” Letter from U.S. Special Agent Simmons, Fort Peck, M.T. to General B.R. Cowan, Assistant Secretary Interior, December 8<sup>th</sup>, 1872. *Letters Received by the Office of Indian Affairs, 1824 – 1880* (Montana Superintendency, 1872) National Archives Record Group 75 Roll 49.

#### **d. The Sioux Arms Trade**

A question heard many times when discussing *Baker's Battle on the Yellowstone* is, Where did the Indians get their weapons and ammunition? The Sioux and their allies had no means of manufacturing cartridges. They had to trade for these precious commodities. The Sioux had a number of trading sources, some reliable and some not.

Sales of weapons and ammunition to the Sioux and other tribes proved profitable to those engaged in this business. A letter from F. W. Edgar, Grand River Agency D.T., to General David S. Stanley, Commander of the Middle District, Department of Dakota, dated July 4<sup>th</sup>, 1870, demonstrates this point: "... through May, 1870 John B. Dillon illegally traded rifles with the Sioux Indians. He traded "Mad Bear" one rifle for four robes, and to "Crooked Neck" he traded one rifle for one horse."<sup>1</sup> Colonel John Gibbon, Commander of the District of Montana, further demonstrates this point as can be seen in a letter dated October 18, 1871 from Superintendent of Indian Affairs for Montana, Jasper .A. Viall. This letter alerted the Commander of the trade between the Metis of Canada and the Sioux. The letter states, "I have information through Special Agent A.J. Simmons of Milk River Agency of the presence of between seventy five and one hundred Half-breeds from British America in the vicinity of the Milk River Agency who are establishing winter quarters and bringing in large supplies of liquor and ammunition for the purpose of trading the same to the various Indian tribes in that vicinity." Viall goes on to state, "The Uncapapa and the Teton Sioux under Sitting Bull received supplies and ammunition from this source and are encouraged by these outlaws to make war upon the Government of the United States and its citizens and particularly to oppose the construction of the Northern Pacific Railroad, while the Indian

Department is using efforts to effect peace with these Indians. It is our highest importance that these illicit traders marauders and outlaws be driven out of the Indian Country and their nefarious business broken up.”<sup>2</sup>

Frustration of this arms trade with the non-reservation Sioux, particularly Sitting Bull and Crazy Horses bands can be clearly ascertained by the following comments written by Colonel David Stanley, the Northern Pacific Railway Expedition Commander from Fort Rice, who, incidentally, was to link up with Major Baker’s party at the Mouth of Powder River. Stanley, not long after his fight with the Sioux on O’Fallon Creek commented, "In many cases, these weapons of civilian manufacture, primarily Winchester and Henry repeating rifles, were superior to those issued to the army."<sup>3</sup> Stanley further expressed his frustration, following his encounter with Sitting Bull. In a dispatch dated August 25<sup>th</sup> 1872 Stanley implored General Hancock, “please stir up the traders who sell Winchester rifles and ammunition to these Indians . . . Durfee and Peck do it to an unlimited extent.”<sup>4</sup>

Colonel David S. Stanley attempted to curb the arms trade to the “hostiles” by issuing an order on September 5, 1872 from the field to all his post commanders in the Middle District to take possession of all arms and ammunition now in the hands of the post traders. He also recommended that Fort Peck, Fort Belknap, and Fort Browning be suppressed as trading posts. They were nothing more than “magazines at which now hostile and always professedly hostile Indians are furnished with unlimited arms and ammunition used to fight government troops and murder citizens of the United States.”<sup>5</sup>

The Secretary of Interior was informed of General Stanley's concerns. He issued an order restricting sales to "non-hostile" Indians through Indian agents. Civilian post traders were forbidden to sell arms and ammunition to Indians under the threat of losing their licenses.<sup>6</sup> General Sheridan, sharing Colonel Stanley's concerns regarding the illegal arms trade, wrote the following letter to the Adjutant General on October 14, 1872. "The government gives, even to the worst of Indians, arms and ammunition, and they have always gotten plenty of both from traders and perhaps always will. The good Indians, also, to whom the Government issues arms and ammunition carry on a lively trade at high prices with the bad Indians. I do not expect any practical good to come from this order. The trader will close the front door and sell at the back door."<sup>7</sup>

Sheridan's concerns of traders selling arms and ammunition "at the back door" proved valid. On November 7, 1872, in a letter to General Hancock, Stanley wrote, "Another officer of the 17<sup>th</sup> at the Grand River Agency told me that 'The Gall,' the first Indian to lead a war party to fire on us last summer, traded twenty-three [buffalo] robes for Henry cartridges and carried out with him three kegs of powder." Stanley concluded: "Let the proper officer of the government take the responsibility of bartering the blood of the citizens and soldiers of our country for buffalo robes ...."<sup>8</sup>

Captain Edward Clayton, 17<sup>th</sup> Infantry, further expressed his frustration of the arms trade occurring at Grand River Agency to General David Stanley. Captain Clayton informed the General that tons of ammunition, much of it Patent (Henry and Winchester Rifles), was traded to hostile Tetons last winter.

Captain Collins in a letter dated April 27<sup>th</sup> 1873 details the seriousness of the arms trade,

“Gall”, with a party of hostile Indians, is now at the agency, and report that they have been at Fort Peck, where they trade their furs for arms and ammunition, stating that they could get there all they could pay for.”<sup>9</sup>

Colonel Stanley identifies the Post and Civilian Traders as the immediate sources of arms and ammunition for the Sioux. However, there was another source of weapons and ammunition available to hunting bands of the Sioux and their allies. This was the Metis traders, who migrated from Canada into Montana to hunt game in Northern Montana and engage in trade with those willing to do so.

In a letter to the Assistant Adjutant General dated November 4, 1872, Stanley expressed great hindsight stating,

“The two great mistakes of all the Indian Management have been breaking up the Posts in The Powder River country, which filled the Sioux with arrogance and insolence, and Allowing traders to establish themselves among the hostile of the bands to supply them with unlimited arms and ammunition which given them confidence. ... Distance is not taken into account by the Uncapapas, San Arc or Minneconjou. They will trade where they get the most ammunition and arms, and if they cannot get these at Fort Peck, they will go to Fetterman, Red Cloud’s Agency, or White Earth River. I recommend that this matter be brought to the notice of the Lieut. General. Since the Department Commander has had the kindness to ask any views upon this subject, I would submit that General Terry’s order seems to cover the case of Military Stations at Agencies. The latter part of General Cooke’s Order No. 10, is more effective since it directs a military



surveillance over Trading Posts or Traders generally, within the reach of their power, by Post Commanders. As this is co-operating with the Indian Agents under their present instructions I cannot see who can object except the Indian and the Trader. This would Bring Fort Peck, Fort Browning and Fort Belknap under the Commanding Officer of Fort Buford. I will add that if I had the power, I would order every trader in the immense Indian country to pack up and move to the nearest Military Station, just as soon as the Weather would permit in the spring. This measure was adopted by General Harney in the Sioux War of 1855 with the best effect and I never heard the policy or right of his order Questioned. In the present case this is the only remedy, and if disapproved let the proper Officer of the Government take the responsibility of bartering the blood of the citizens and the soldiers of the country for Buffalo robes.”<sup>10</sup>

Colonel David Stanley wrote a frustrating letter on May 3, 1873 which sums up the seriousness of the arms trade problem. This letter was forwarded to the Headquarters Department of Dakota. His letter shows the prevalence of the sale of weapons to the Sioux.

“...This is a matter of some gravity, and one upon which I have expressed decided opinions heretofore. I have always expressed my belief that the regulation of the Indian Department prohibiting the sale of arms and ammunition to hostile Indians would prove a dead letter at all trading posts not supported or watched by the military. Firstly, the trader at these posts dare not refuse arms and ammunition to Indians. Secondly, it is not in his interest peculiarly to do so. An investigation would show nothing. There are plenty of good witnesses at these

places to prove that black is white. The only remedy is to break up the posts and remove them to the nearest military post.”<sup>11</sup>

The Sioux and their allies showed great ingenuity in engaging arms trade with a variety of sources. However, their limited resources would prove to be a significant factor in their withdrawal from the Arrow Creek Fight (Baker’s Battle on the Yellowstone) as well as other engagements, including their withdrawal from the Reno Hill Fight after the defeat of General Custer at the Battle of the Little Bighorn.

Sitting Bull ended the fight on the Yellowstone because the ammunition being used in the fight with Baker’s Command would be needed to provide substance for the non-reservation bands as well. Sitting Bull had to do what he could to ensure that additional ammunition would not be wasted in a long-distance fight.

The Sioux had ample opportunity to acquire arms and ammunition from a variety of sources ranging from the Metis, “friendly Indians”, post traders, etc. As early as 1866, J.R. Hanson, United States Indian Agent of the Upper Missouri Sioux, pointed out to the Commissioner of Indian Affairs, "... The Sioux procure all the ammunition they desire from the ‘Red River’ half-breeds”.<sup>12</sup> This illegal arms trade clearly became more serious as Sitting Bull and the non-reservation Sioux continued to have an open flow of arms and ammunition from this source and others throughout the early 1870’s.

Despite the trade for weapons and ammunition, the non-reservation Sioux had a finite supply of cartridges and bullets. These metallic cartridges were a precious and costly necessity. They would provide the Sioux, Northern Cheyenne, and Arapaho with the

ability to match the soldiers in warfare.

.

## Section XII Footnotes:

1. Letter from F. W. Edgar, Grand River Agency D.T., to General David S. Stanley, Commander of the Middle District, Department of Dakota, July 4, 1870. National Archives Record Group 393 Letters of the U.S. Army Continental Commands (*Records of the Middle District of the Dept. of Dakota*), Letters Received (1870).
2. Letter from Superintendent of Indian Affairs for Montana, Jasper A. Viall to Colonel John Gibbon, Commander of the District of Montana, October 18, 1871 National Archives Record Group 75, Microcopy 33, Roll 66 *Records of the Department of Indian Affairs, Letters Received* (Montana Superintendency, 1871).
3. Letter from Colonel David S. Stanley to General Winfield S. Hancock, August 24, 1872. National Archives Record Group 94, *Letters Received by the Adjutant General's Office* (1872).
4. Letter from Colonel David S. Stanley to General Winfield S. Hancock, August 24, 1872, National Archives Record Group 94, *Letters Received by the Adjutant General's Office* (1872).
5. Letter from Colonel David S. Stanley to General Winfield S. Hancock, September 3, 1872. National Archives Record Group 94, *Letters Received by the Adjutant General's Office* (1872).
6. Letter from the Secretary of the Interior to the Secretary of War, September 17, 1872, National Archives Record Group 94, *Letters Received by the Office of the Adjutant General's Office* (1872).
7. Letter from General Sheridan to the Secretary of War, October 14, 1872, National Archives Record Group 94, *Letters Received by the Adjutant General's Office* (1872).
8. Letter from Stanley to Hancock, November 7, 1872, National Archives Record Group 94, *Letters Received by the Adjutant General's Office* (1872).
9. Letter from Captain Edward Collins, Captain 17<sup>th</sup> Infantry, Grand River Agency, D.T. to the Assistant Adjutant General, Middle District, Fort Sully, D.T., April 27, 1873. National Archives Record Group 75 Microcopy 234, Roll 497, *Letters Received by the Department of Indian Affairs* (Montana Superintendency, 1873).
10. Francis Courtney Carrington, *My Army Life and the Fort Phil Kearney Massacre* Philadelphia, London, J.B. Lippincourt Co. 1910. p. 50
11. Letter from Colonel David S. Stanley, 22<sup>nd</sup> Infantry forwarded to Hdqrs. Middle District, Fort Sully, D.T., May 3, 1873. National Archives Record Group 94, *Letters Received by the Office of the Adjutant General's Office* (1873).
12. Letter from Colonel David S. Stanley to the Assistant Adjutant General, November 4, 1872, National Archives Record Group 94. *Letters Received by the Office of the Adjutant General's Office* (1872).

## **VI. Archeology at Baker's Battlefield**

### **a. Introduction**

Archeology at Baker's Battlefield is composed of sections that present an analysis of the terrain and physical evidence found at Baker's Battlefield. The purpose of the archeological work completed is to verify that the site is actually the site of Baker's Battle on the Yellowstone, August 14, 1872.

The Physical Description of the Battlefield: This section of the report provides an analysis of the physical topography of the battlefield. The purpose of this section is to provide the topographical information necessary to complete the 3-D base map.

Terrain Aspects of the Battlefield with military significance is broken down into two parts, Terrain Aspects Significant to the U.S. Army and Terrain Aspects Significant to the Indian warriors. The purpose of this section is to provide insight into the U.S. Military and Indian use of the topography during the battle.

The Methodology section describes the procedures used prior to and after the grant process. It is the intent of the authors to show an evolution of archeological techniques used as the grant process evolved.

The Sampling and Study Section is provided in order to verify the locations of earlier artifact extraction work. An Excavation Unit Diagram and Photos of Test Pit operations are provided.

Maps are provided to show the setting of the battle, locations of Indian positions, Infantry and Cavalry positions and key terrain features.

Baker's Battlefield is broken down into artifact cluster areas. The cluster areas are as follow: Indian Positions # 1 (determined to be part of Captain Ball's skirmish line) through # 7, Infantry Skirmish Line Positions, Cavalry Skirmish Line Positions, Captain Ball's Skirmish Line, Avenue of Approach to Captain Ball's Skirmish Line, and Major Baker's Campsite.

The Physical Description, Characteristics, Ammunition Found, Known Weaponry Used at Position, Range to Opposing Positions, Historical References, Narrative, Position Inventory, Maps, Photos, and Graphs will be studied in each of the artifact cluster areas.

The Artifact Identification section provides the reader with the information on how the Principal Investigators initially identified the artifacts found at the battlefield.

Selective Analysis of Cartridge Cases and Bullets section provides comparison data between the ammunition found at the battlefield and those studied by experts in the field of ammunition study.

Weapons and Ammunition Used at Baker's Battle is broken down into three subsections: Weapons and Ammunition Used by the Soldiers and Civilians, Sioux, Northern Cheyenne and Arapaho, and Perspectives of the "other" cartridge casings.

The information gleaned from this study will provide a valuable insight to Indian and U.S. military battlefield behavior during the early 1870's Indian War Period.

## **b. Physical Description of Baker's Battlefield**

The terrain (topography) at Baker's Battlefield can be broken down into three distinct ecological types. These three types of terrain are "Battlefield Site Hill Terrain Composition", "Battlefield Site Old Floodplain Grass Association", and "Battlefield Site Riparian Plant Association".

The study of the terrain composition was undertaken in order to complete an appropriate Base Map of the Baker Battle site (3-D Imagery). Brad Norling undertook the task of producing 3-D maps which include grasses, and other vegetation samples thought to be present during the time of the battle on the Yellowstone.

Norm Shoenthal, a Biology Professor Emeritus at Montana State University, Billings volunteered to undertake an ecological analysis of the battle site. Mr. Shoenthal proved to be extremely knowledgeable on riparian ecology. He also was intimately familiar with the site of Baker's Battle and the neighboring environment. He had previously completed numerous environmental impact statements of the riparian area at the site.

Two trips to the site and neighboring area were made in order to analyze the site.

Following the on-site studies, Mr. Shoenthal produced the following information necessary for the base map of the Baker Battle site. (See Mel Walker's Battlefield Maps 1 and 2 of 8 for perspective of the Battlefield Compositions)

## 1. "Battle Field Site" Hill Terrain Composition

There is a small patch of native short grass that is virtually undisturbed (for the past 50+ years) on the Jim Sindelar property. This is located on the bench of the Yellowstone River drainage and would be very similar to the "Battlefield" site.

### Woody Plants

Big sagebrush	Artemisia tridentata	(Dominant shrub)
Silver sage	Artemisia cana	
Fringe sagewort	Artemisia cana	
Skunkbrush sumac	Rhus trilobata	
Plains pricklypear	Opuntia polyacantha	
Yucca	Yucca glauca	

### Draw Woody Vegetation

Plains cottonwood	Populus deltoides	(Dominant Woody Vegetation)
Narrowleaved cottonwood	Populus angustifolia	
Rocky Mountain Juniper	Juniperus scopulorum	
Buffaloberry	Shepherdia argentea	
Common chokecherry	Prunus Virginiana	

### Grasses

Western wheatgrass	Agropyron smithii	
Thickspike wheatgrass	Agropyron dasystachyum	
Bluebunch wheatgrass	Agropyron spicatum	
Sandberg bluegrass	Poa secunda	
Needle-and-thread	Stipa comata	
Green needlegrass	Stipa viridula	
Prairie junegrass	Koeleria cristata	
Blue grama	Bouteloua gracilis	(Dominant grass)
Prairie sandreed	Calamovilfa longifolia	
Treadleaf sedge	Carex filifolia	

### Draw Grasses

Canary reedgrass	Phalaris arundinacea
------------------	----------------------

### **Forbs**

Phlox	Phlox hoodii	(Dominant Forb)
Scarlet globemallow	Sphaeralcea coccinea	
Buckwheat	Eriogonum spp.	
Sagebrush violet	Viola nuttallii	
Prairie goldenpea	Thermopsis rhombifolia	
Prairie groundsel	Senecio spp.	



Curlycup gumweed	Grindelia squarrosa
Common starlily	Leucocrinum montanum
Textile onion	Allium

## 2. “Battle Field Site” Old Floodplain Grass Association

This association extends from the riparian to escarpment. The soils are heavy clays. It is difficult to predict the vegetation at the time of the battle. This association is now converted to irrigated agriculture and relic populations are difficult to find in the battlefield site.

### Shrub Community

Big Sagebrush	Artemisia tridentata	(Would have been the dominant plant but never in the density found on the slopes)
Black greasewood	Sarcobatus vericulatus	Minor shrub
Winterfat	Eurotia lanata	

### Grass Community

Western wheatgrass	Agropyron smithii	(These three grasses would be the dominant species)
Thickspike wheatgrass	Agropyron dasystachyum	
Greenneedle grass	Stipa viridula	

### Forb Community

Native legumes	Astragalus spp. (These forbs are in very small numbers)
----------------	---

## 3. Battle Field Site” Riparian Plant Association

The diary description of the riparian association near the Jim Sindelar property would indicate it was a mature to old age riparian association. To have wild roses present (as noted by Major Barlow’s Journal) the canopy of the cottonwoods would have to be open to allow enough light penetrating the shrub story to allow growth of roses. This usually takes place between 50 to 75 years following the flood that established the plains cottonwoods.

### A. Tree Canopy Story

Plains cottonwood	Populus deltoides	dominant (majority of the canopy)
Narrowleaved cottonwoods	Populus angustifolia	
Peachleaved willow	Salix amygdaloides	

Boxelder                                      Acer negundo

**B. Shrub Story**

Common snowberry	Symphoricarpos alba	Snowberry and wild rose constitutes majority of the shrub community.
Wild rose	Rosa woodsii	These two shrubs are always together.

**Next to the oxbow or stream edge**

Narrow band of Sandbar willow (*Salix interior*)

**C. Other shrubs that would be present at the time of the battle**

The following shrubs form mosaic pattern in the shrub community

Golden currant	Ribes aureum
Common chokecherry	Prunus virginiana
Red-osier dogwood	Cornus stolonifera
Buffaloberry	Shepherdia argentea
Skunkbrush sumac	Rhus trilobata

**Grass Story**

Grasses seldom form pure stands but are intermixed between the snowberry and rose shrubs. It is difficult to predict the grass community at the time of the battle. Introduced grasses include smooth brome, orchard grass and cheat grass now dominate the riparian grass story.

**Assumed grasses present at the time of the battle**

Canary reedgrass	Phalaris arundinacea	(A tall grass that forms pure stands in wet to Moist areas)
Western wheatgrass	Agropyron smithii	
Needle-and-thread	Stipa comata	
Sandberg bluegrass	Poa secunda	
Prairie sandreed	Calamovilfa longifolia	

**Forbs**

The raparian association does not allow sufficient time for a wild flower population to become established. Most of the forbs would be considered weeds. Mullein (*Verbascum thapsus*) would be a good example.

**c. Terrain Aspect of Military Significance to the U.S. Army and to the Indian Warriors.**

**1. Terrain Aspects of Military Significance to the U.S. Army**

The location of Major Baker's camp provided a nearly ideal bivouac site. It was level to accommodate an orderly layout. The camp was close to good water providing for sanitary needs and some recreation. Wood was plentiful for fires.

In size the site easily accommodated the number of troops present as well as adequate space for the wagons and livestock. Good forage was abundant reducing the need to deplete the feed stocks. A convenient shallow depression allowed a good place to picket the horses. The slough which arched around the camp provided a natural barrier to help contain the livestock.

The primary disadvantage was the fact that heavy timber and underbrush allowed for close covered approach from either upstream or downstream and the entire camp was dominated by the surrounding bluffs. However, the bluffs were from three hundred to more than eight hundred yards distant.

Outposting the bluffs would have been useful in providing early warning of hostile approach in daytime but would have been foolhardy at night. Normal pickets and sentinels located nearer the camp was more prudent for the hours of darkness.

**2. Terrain Aspects of Military Significance to the Indian Warriors**

Major Baker's camp provided a tempting target. Heavy timber and underbrush along the riverbank provided cover and concealment for stealthy approach to the camp.

The bluffs overlooking the camp provided excellent observation of the camp as well as providing several excellent reverse slope positions for long range rifle firing. Two substantial ravines that cut down from the plains above the river bottom to the floodplain itself provided excellent covered approaches to the reverse slope positions on the bluffs. These ravines, one unnamed and the other the course of Seven Mile Creek also were large enough to shelter the substantial horse herd that brought the warriors to the site.

#### **d. Methodology**

On all of the Indian Positions and Major Baker's skirmish line in the slough and timbers the investigators used Fisher model metal detectors. The choice of metal detecting devices were models 1225X and 1265 detectors, both using 8" search coils. Trowels and long flat head screw drivers were used for digging instruments. Most artifacts were found in the range of 1 to 3 inches below the surface, though some were actually exposed on the surface.

Plotting of artifacts was done on ten by ten foot grids. The grids were established on each position and oriented to magnetic north. Artifact locations were measured from the 0 – 0 base, that is measured from top and left lines of each grid square. A total station survey was completed in the Indian Positions for the purpose of mapping these artifact positions.

Artifacts were numbered with randomly selected alphabetic / numeric codes prior to the grant. Those artifacts found during the grant funded search phase were numbered sequentially.

On Indian Position # 1 and Captain Ball's skirmish line, a Lowrance GlobalMap 100 GPS unit was used to determine and record locations for each of the artifacts found in these areas. A total station survey was completed in 2002 for the purpose of mapping these artifact positions.

#### **e. Sampling and Study**

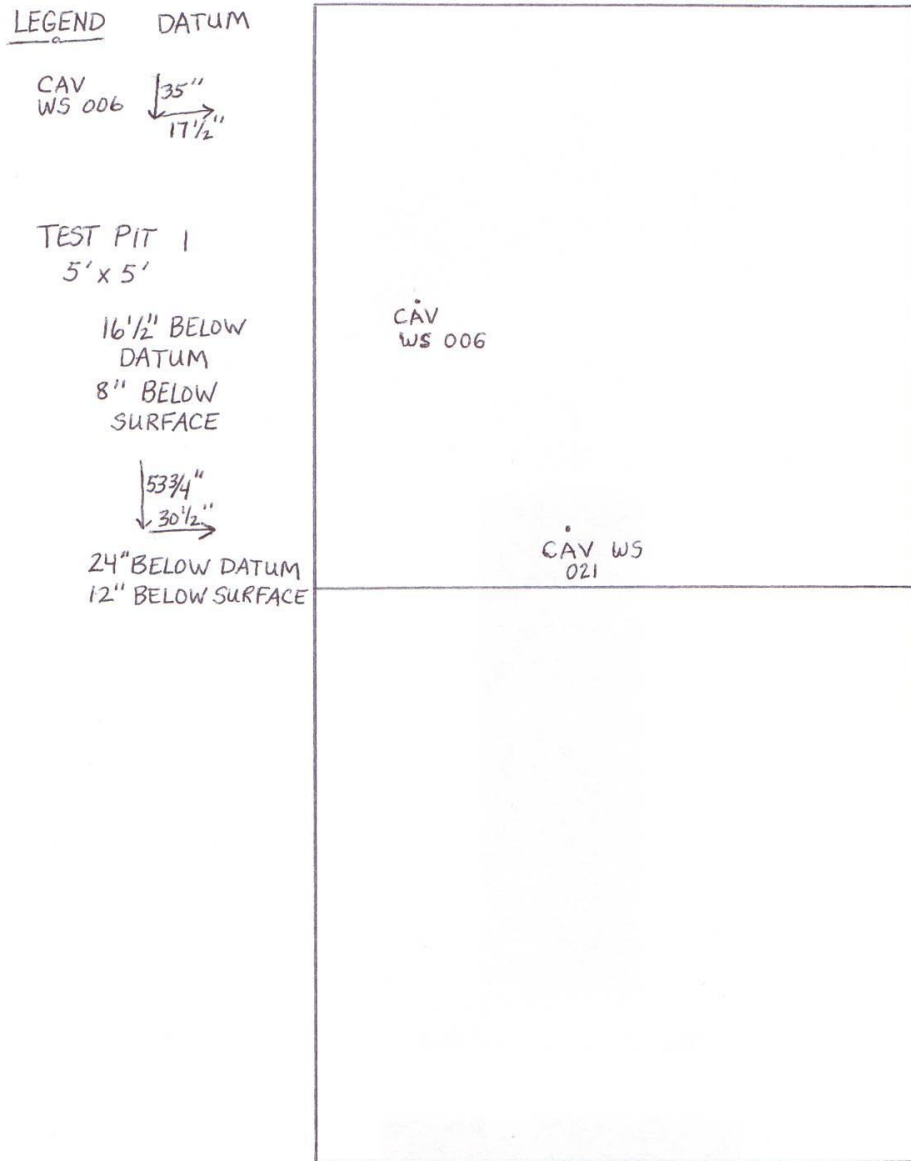
Most of the artifacts had been recovered during the metal detecting phases of the study. However, there had been little testing for non metallic artifacts. August 10, 2001, Harold Hagen, Dave Eckroth, and Dennis Nemitz opened an initial 5-foot by 5-foot square near the McClarren marker. The test pit was identified by locating grid corner spikes that had been placed during the metal detecting phase of the operation. Standard archeological techniques were used. The sod level was stripped and searched and was devoid of artifacts.

Excavation progressed using six-inch levels. At sixteen and one half inches below datum (eight inches below surface) metal disk CAV WS006 was recovered and replaced. At twenty-four inches below datum (twelve inches below surface) metal disk CAV WS 021 was recovered and replaced (see diagram). An additional six-inch level was excavated to determine if any other metallic or non-metallic artifacts remained within the test unit. There were none. The soil within the unit consisted entirely of gray to brown, stream deposited silt. There was no indication of cultural stratification.

The test unit was excavated into the north slope of the slough. It bordered the campsite in a location, which had yielded artifacts during the metal detecting phase of the study. The location of the two disks are verification that several artifacts (.50/70 cartridge casings)

had in fact been removed from this location, and their locations had been preserved by the placement of the lead disks.

### Excavation Unit Diagram





The above photo was taken of the initial test pit (Test Pit 1) at Baker's Battle. This Test Pit was located in the Cavalry position, adjacent to the McClarren Monument.

**Courtesy of Dennis Nemitz**



This photo was taken at Test Pit 1. The trowel points to a lead disk uncovered during this phase of the Baker Battle Project.

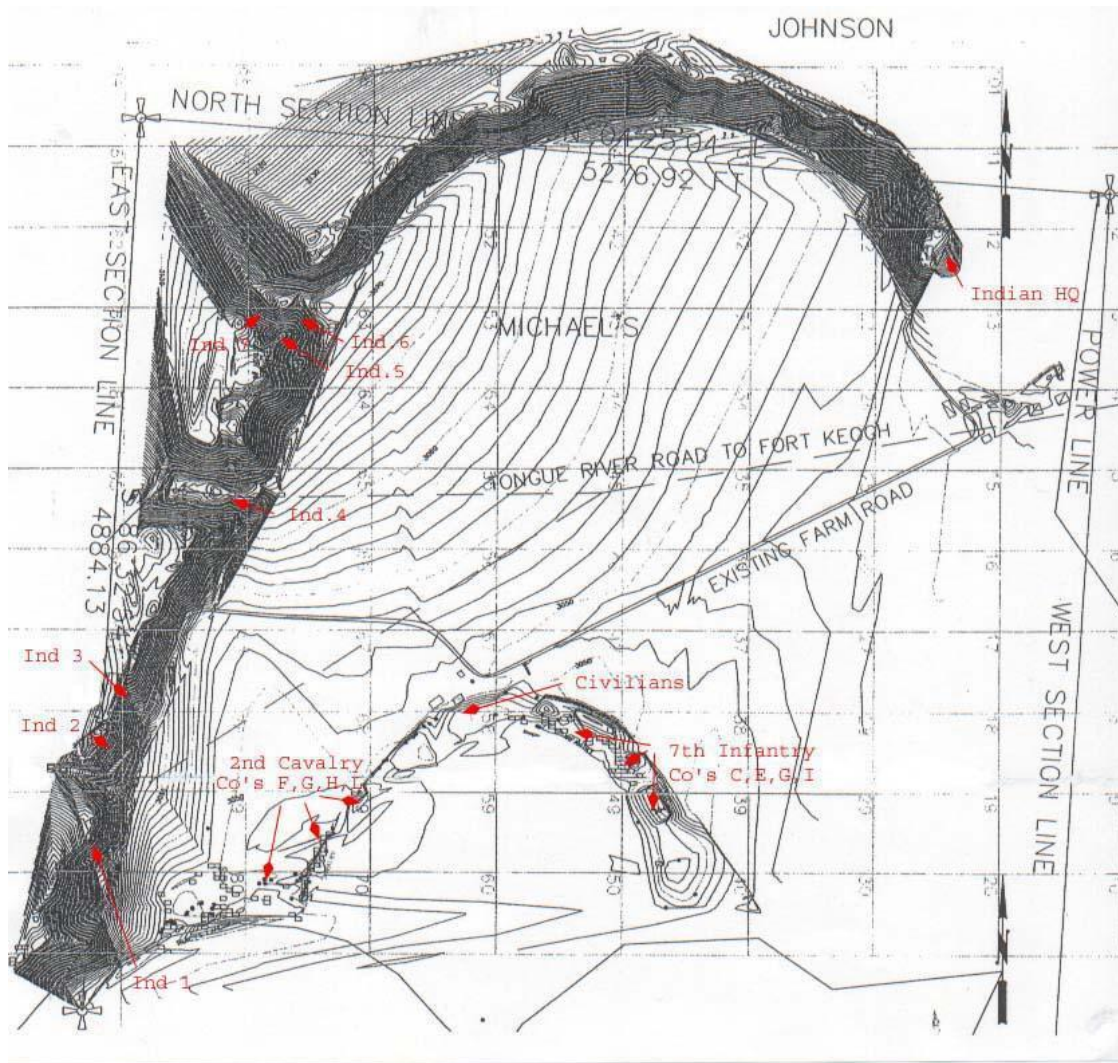
**Courtesy of Dennis Nemitz**



This photo shows a closer view of a lead disk  
(CAV WS 006)uncovered at Test Pit 1.  
**Courtesy of Dennis Nemitz**



## f. Battlefield Maps



This map portrays Baker's Battlefield on the Yellowstone, August 14, 1872. The above map shows T1N, R27E (Sections 5, 6, 7 and 32). The 7 Indian Positions are noted on the map, however, Indian Position 1 may have been misnamed as the artifacts found in this location may be either Indian or U.S. military and are now thought to represent Captain Ball's skirmish operation. The Civilian position is also presumed as modern buildings occupy this part of the skirmish line.

**Courtesy of Mel Walker**





FRONTIER HERITAGE ALLIANCE  
BAKER'S BATTLE FIELD  
SECTION 5, T1N, R27E, PRINCIPLE MERIDIAN

SUPervised by MEL WALKER  
DATE SURVEYED: 4/1/01  
DRAWN BY: MEL WALKER  
DATE: 8/01  
FILE: C:\BAKERS BATTLE FIELD



## g. Cultural Resource Analysis Chart

Cultural Feature	Source	Archeological Indication	Physical Description	Potential for Future Survey
Major Baker's Camp	F. Minscher 8/11/1904	8 bullets 17 casings	camp near Yellowstone high grass	X
Slough - East (Cav)	Lt. Bradley 1872	89 casings (17 groups) 4 bullets, 3 NBR casings	eastern portion of slough	X
Slough - Center (Civ.)	Lt. Bradley 1872	None	central portion of slough	X
Slough - West (Inf.)	F. Minscher 8/11/1904	61 casings (51 groups)	western portion of slough	X
	Lt. Bradley 1872	2 bullets, 2 mule shoes 4 NBR casings		
Field North of Slough	Maj. Barlow 8/11/1904	2 uniform buttons 1 tent stake, 1 casing	high grass	X
Cpt. Ball Ave of App.	Maj. Barlow 1/6/1873	9 casings, 1 bullet	west slope of ridge	
Cpt. Ball Skirmish L.	Maj. Barlow 1/6/1873	20 casings, 3 bullets	plateau NW of Baker Camp	
Field - NW of Slough	McClernand 1876	1 bullet, 1 post-battle	high grass, cottonwoods	X
	S. Vestal 1934	bullet, 1 horse accoutremnt		X
IP1(East Hilltop)	Maj. Barlow 1/6/1873	2 casings 1 post-battle casing 3 casings, 1 bullet 1 post-battle unfired bullet	bluffs west of camp	
IP2 (East Slope)	Maj. Barlow 1/6/1873	3 casings behind crest	reverse slope of hill	
IP3 (East Slope)	Maj. Barlow 1/6/1873	4 casings	reverse slope of hill	
West Slope of IP3	F. Minscher 8/11/1904	1 bullet	slope of hill facing soldiers	
IP4 (NE Slope)	Maj. Barlow 1/6/1873	211 casings, 2 rd balls 4 bullets, 3 NBR casings 1 button, 1 gorget	reverse slope of hill	X
SW Slope of IP4	F. Minscher 8/11/1904	46 bullets, 4 NBR bullets	slope of hill facing soldiers	X
Bluffs North of IP4	F. Minscher 8/11/1904	34 bullets, 1 horseshoe	slope of hill facing soldiers	X
IP5 (NW Slope)	Maj. Barlow 1/6/1873	4 casings, 1 NBR casing	bluffs NW of soldiers pos.	
SE Slope of IP5	F. Minscher 8/11/1904	3 bullets	slope facing soldiers	X
IP6 (NW Slope)	Maj. Barlow 1/6/1873	162 casings, 1 bullet 2 NBR casings, 1 per. nail	reverse slope of hill	
SE Slope of IP6	F. Minscher 8/11/1904	41 bullets, 2 NBR bullets 1 wagon wrench	slope of hill facing soldiers	
Bluffs NE of IP6	F. Minscher 8/11/1904	6 bullets	slope of hill facing soldiers	X
IP7 (North Slope)	None None	3 casings	reverse slope of hill	X
Indian HQ (NE Bluff)	Maj. Barlow 1/6/1873	None	prominent bluff NW of soldiers	X
Potential Grave	Urbaniak May-03 Bogges Jun-03	Stones arranged in distinct pattern	grave near the Yellowstone River	X
Tracy's Landing	Ken Feyhl 4/12/2002	50 metallic artifacts: Military and non-military	Landing - north channel of Yellowstone River	X
Wagon Road	DeLacy 11/15/1878	None	feature no longer exists	

**Narrative:** Baker's Battlefield has been heavily investigated. The principal investigators are certain that there are still cultural remains, which fall into three general categories: artifacts buried deeper than the initial metal detector survey could detect, areas that have been continually in agricultural use and therefore not available for survey and areas that have undergone land use changes, i.e. road, bridge, ditch and building construction, such as the civilian portion (center) of the slough, and the prominent hilltop known as the Indian Headquarters.

The previous investigations have been conducted with metal detectors, consequently, many non-metallic remains that may exist have not been surveyed.

It is also possible that with sophisticated methods of survey, such as Ground Penetrating Radar equipment, the location of Sgt. McClarren's burial site could be identified.

Notes: NBR – non-battle related  
IP – Indian Position

**h. Artifact Cluster Areas:** There are 12 distinct artifact cluster areas located at Baker's Battlefield. These areas are as follows: Indian Position # 1 - # 7, Infantry skirmish line Positions, Cavalry skirmish line Positions, Captain Ball's Skirmish Line, Avenue of Approach to Captain Ball's Skirmish Line and Major Baker's Campsite.

**Indian Position # 1** (This position was subsequently determined to be the Avenue of Approach and Flanking Positions related to Captain Ball's Skirmish Line)

**Physical Description of Position:** This position consists of the talus slopes and plateau above the slopes located west of the slough and timbers. This position lies within Section 6 of T1N R27E. The bluffs that make up this position are at least 80 feet above the flood plane and the slope of the bluffs rise at an angle of 40 degrees. The terrain north of the bluffs is a plateau, with a number of natural berms. The south face of the bluffs consists of a gradual draw. The right side of the draw is steep enough to afford adequate cover for movement and it overlooks the main battlefield. This position's northern boundary is the area known as Captain Ball's skirmish line (See Battlefield Map 2 of 8 for visual perspective)

**Ammunition Found:** Three .50/70 cartridge casings were found in this position. The .50/70 cartridges were a common ammunition type used during the early to mid 1870's. A .450 grain bullet was found in this position that also is consistent with ammunition types used in the early to late 1870's. In addition a .44 caliber bullet was also found in this area of the battlefield and it is definitely of a post-battle design.

**Known Weaponry Used at Position:** Sharps Conversion Carbines and Springfield model 1868 or 1870 are the known weapons used at this position. Both these weapons fired the .50/70 bullet. The Sharps carbine was standard issue for the four companies of

the 2<sup>nd</sup> Cavalry and the Springfield rifle was standard issue for the soldiers of the 7<sup>th</sup> Infantry. The non-reservation Sioux also had a limited supply of these weapons.

**Range to the other positions:** The Cavalry portion of the skirmish line was approximately 475 yards in an easterly direction. This would have been the closest soldier position had this area been occupied by Indian warriors.

**Historic Reference:** “Captain Ball, of the Second Cavalry, with his company dismounted, went out on the left, and drove the enemy from the bluffs in that direction.”<sup>1</sup>

**Narrative:** The following artifacts were found in this position prior to the grant process: MT BB111, 112, 113, AA1, AA4, AA5, AA6 and AA7. Locations of the following artifacts, MTBB111, 112, and 113 were surveyed during the total station survey of April 2001. The artifacts found in this area of the battlefield include those that could be related to the fight and those that are clearly post-battle in make and model. Prior to November, 2001 it was unclear if the artifacts found in this area could be related to Baker’s battle on the Yellowstone. The investigators considered the historical reference and concluded that the three .50/70 cartridge casings (MTBBA1E, MTBBAA5E and MTBBAA6E) found were from Indian warriors. That suggestion was reconsidered on November 10, 2001.

On November 10, 2001, investigators visited Indian Position # 1 to verify and document military activity in that region of the battlefield. The investigators using metal detectors unearthed one cartridge casing, MTCH001, (This artifact is noted in the Avenue of Approach section of the report). In addition the investigators found another cartridge

casing cluster area (numerous .50/70 cartridge casings noted as Captain Ball's Skirmish Line) All of the casings found on November 10, 2001 were .50/70 design (both Bar Anvil and Benet). These .50/70 cartridge casings found in the new cluster area approximately 100 yards north of Indian Position # 1 were found in a distinct pattern (approximately 10 to 20 feet separating each casing) behind a berm. The pattern of the cartridge casings suggests a U.S. Military skirmish line. This pattern stretched out for approximately 250 feet. The majority of these cartridge casings have the firing pin indentation and scratch marks characterized by use in the Sharps carbine.

Historical records tell us that this is the same type of weapon issued to the four companies of the 2<sup>nd</sup> Cavalry that fought in this battle. Major John Whitney Barlow described an advance of Company H, 2<sup>nd</sup> Cavalry into this area of the battlefield with the intent of pushing the Indians from this portion of the battlefield (see: Historical documentation). Following the discovery of this skirmish line north of Indian Position # 1, an additional six cartridge casings, all .50/70 design with the visible Sharps firing pin markings (MTBB2CH001, MT2CH025, MT2CH026, MT2CH027, MT2CH028 and MT2CH029) were found on top and along the southernmost hill behind and to the right of the skirmish line formation (These artifacts will be discussed in the Avenue of Approach section of this report.)

On November 17, 2001 the investigators and a group of volunteers arrived at this site. The team recorded the positions of MTCH001, AA1, AA4, AA6 as well as the above found cartridge casings using GPS technology. NAD 27 was chosen as the Datum, due to its use on topographic map and STD MGRS (Standard Military Grid Reference

System) was used for locating the positions of the artifacts.

The three original .50/70 cartridge casings, MTBBAA1E (a .50/70 cartridge case fired in a model 1868 or 1870 Springfield rifle), MTBBAA5E (a .50/70 cartridge case fired in a Sharps carbine), and MTBBAA6E (a .50/70 cartridge case fired in a Sharps carbine) were found prior to this grant process and their positions were recorded during the first total station survey completed in April 2001. These artifacts were discovered in the bluffs south of the skirmish line formation (now labeled Captain Ball's skirmish line).

When considering the evidence found within Captain Ball's skirmish line and the additional .50/70 casings found in the vicinity of the original three casings found, the authors now believe that the hypothesis that this was an Indian position was incorrect. The Indians may have occupied this ground; however, there was no physical indisputable evidence of Indian occupation found. The cartridge casings found here when placed in context with the later .50/70 cartridge casings found indicate a pattern of an additional skirmish line used by soldiers of Company H, 2<sup>nd</sup> Cavalry. (This additional skirmish line will be revisited in the upcoming section labeled, Avenue of Approach.)

Note: MTBBAA1, AA5, and AA6 were analyzed by Doug Scott, Technical Advisor, Association of Firearms and Toolmark Examiners Forensic and Archeological Services. These cartridge casings were identified as fired by specific weapons and are listed in the following unpublished report, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana.*



**Position Inventory:** The following artifacts were found in the slopes of the bluffs and on the plateau above the bluffs. They were found and surveyed in the area of the battlefield labeled Position # 1 on Map # 2 of the 8 maps created by Mel Walker, surveyed in April of 2001

MT BB111 .45 unfired bullet, Berdan primed, NHS, Model 1873 or later.  
MTBB 112 horse shoe nail  
MTBB 113 cut chain link  
MTBB AA1 .50/70 high crimp, Benet primed casing fired in a model 1868 or 1870  
Springfield rifle  
MTBB AA4 450 grain .50 cal. bullet, Winchester rifling  
MTBB AA500 .50/70 low crimp, Bar Anvil cartridge casing fired in a Sharps carbine  
MTBB AA6 .50/70 high crimp, Benet primed cartridge casing fired in a Sharps carbine  
MTBB AA7 button – flowery design

Note: The horse shoe nail is consistent with artifacts used during the 1870's, however, this style of horseshoe nail was used in the decades following the battle. The cut chain link is clearly post battle in nature. The provenience of the button found is undetermined.

## Maps:



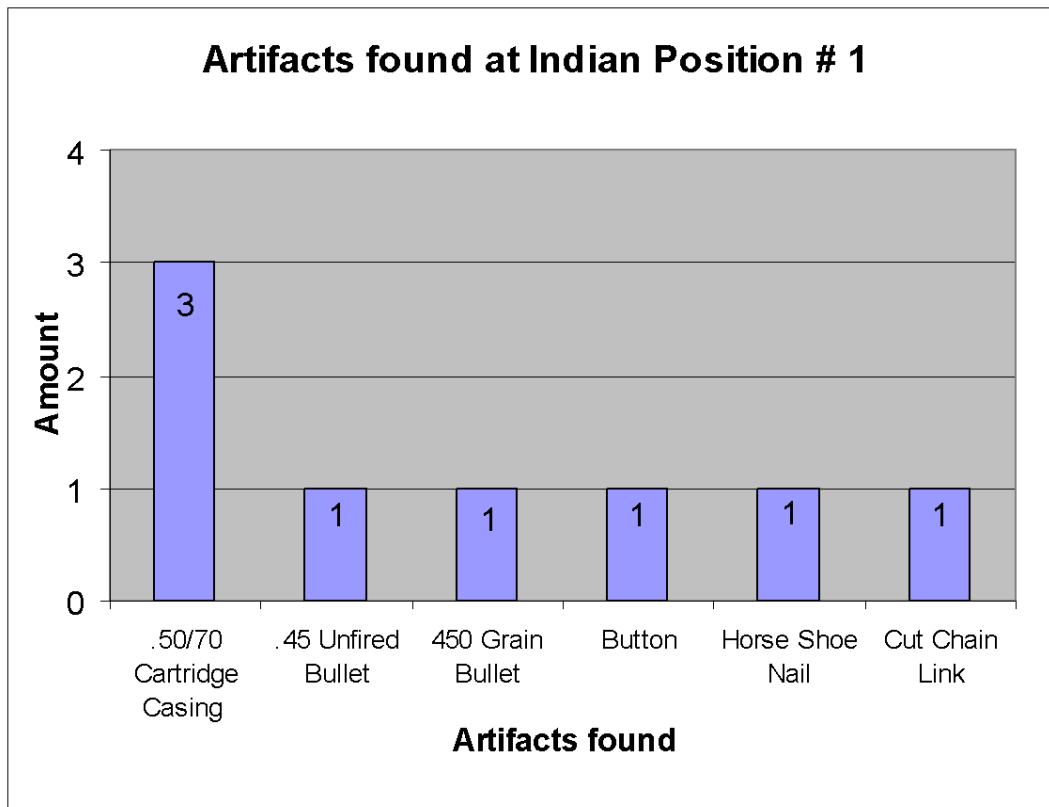
These artifacts were surveyed during the Total Station Survey completed in 2000. Three .50/70 casings were found in the vicinity of these mapped artifacts, however, they were not plotted until the 2<sup>nd</sup> Total Station survey.  
**Courtesy of Mel Walker**

## Photos:



This photo shows the avenue of approach from Major Baker's camp site to Captain Ball's skirmish line. (The photo is taken from the top of the bluff.)  
**Courtesy of David Eckroth**

## Graphs:



This graph shows the artifacts found at Position # 1. The archeological evidences shows a predominance of .50/70 casings, the known ammunition of both the 2<sup>nd</sup> Cavalry and the 7<sup>th</sup> Infantry (Major Baker's command). The other artifacts found in this position are either non-battle related or undetermined provenience.

### Indian Position # 2

**Physical Description of position:** This position is located in the bluffs, northwest of the soldier positions in the slough and timbers. It is north of the turn in the dirt road leading to the landowner residence. The bluffs that dominate this position are approximately 80 feet above the flood plane. The southern slope faces the slough and timbers. The northern slope provided adequate cover and concealment for a small number of warriors engaged in the fight with Major Baker's soldiers.

**Known weaponry used at position:** The artifact remains found at this position indicate the presence of at least 1 Henry or Winchester model 1866 rifle

**Ammunition found:** Three .44 rimfire cartridge casings found in this position. They are characteristic of the Indians who fired upon Major Baker's camp.

**Range to enemy positions:** The range from this position to the Cavalry position is approximately 440 yards. The range to the Infantry position is nearly 970 yards. The Infantry position would not be a feasible target from this position due to the cottonwood growth and brush adjacent to the slough and timbers.

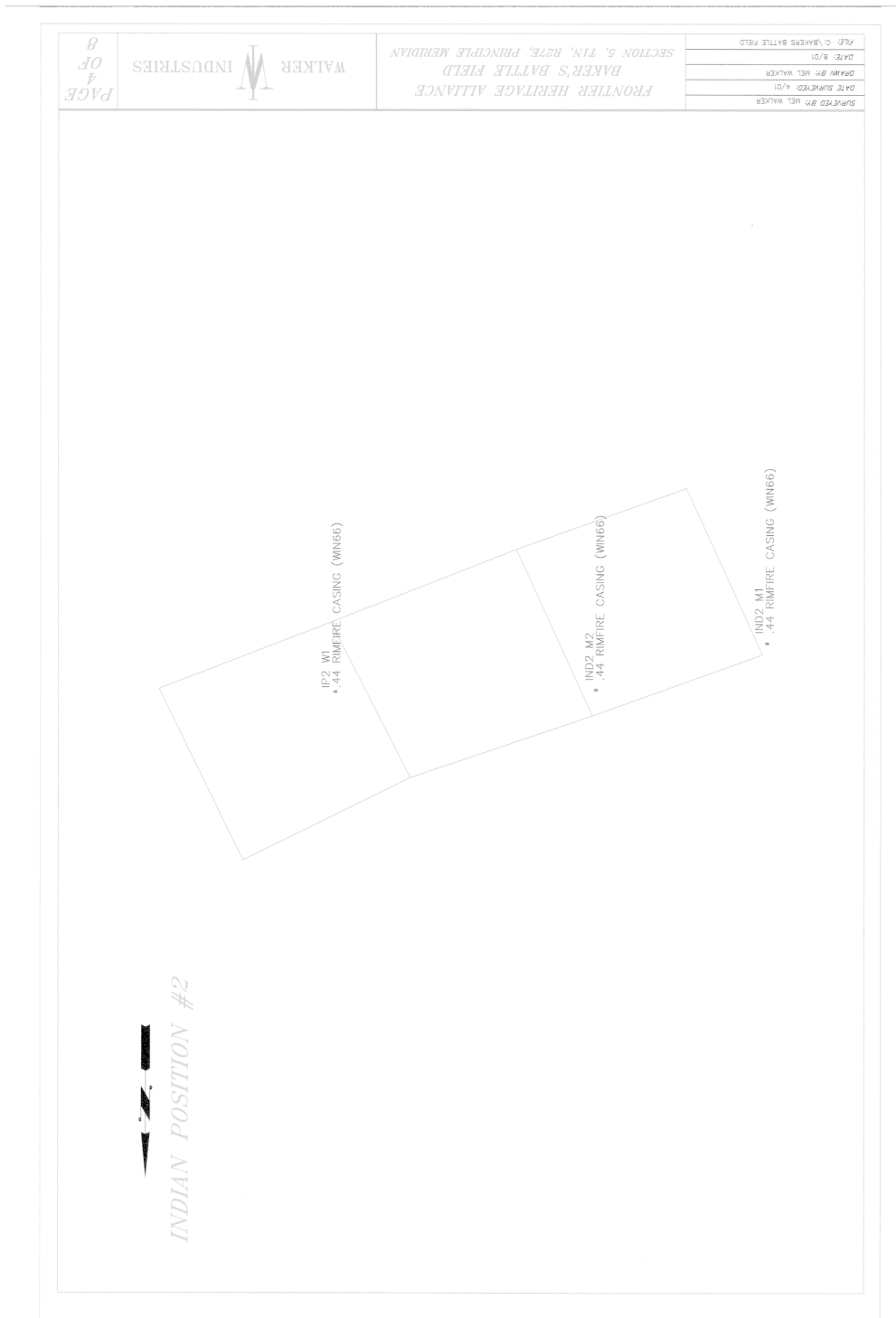
**Historic Reference:** "Every available point on the bluffs in our front for a mile in extent was occupied by them, while from the various ravines and other places of ambush came rifle-balls often sent with the most unpleasant precision. The whole force was variously estimated from five hundred to one thousand."<sup>2</sup>

"The bluffs above were lined with savages who, together with those nearer at hand, kept up a continual firing upon our camp. Bullets penetrated our tents, struck three or four

men, killed two horses on the picket-line, and wounded several mules. During all this time it was too dark to estimate the force of the Indians, or even conjecture what their plans might be.”<sup>3</sup>

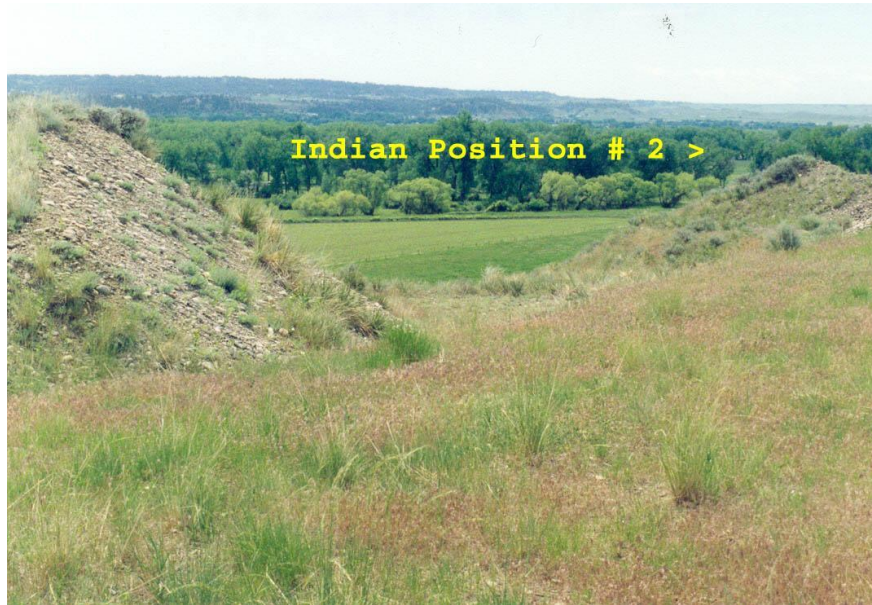
**Archeological evidence found at this position:** Three .44 rimfire cartridge casings were found in this location. They were uncovered behind the crest of the bluff and within 5 feet of each other. The .44 rimfire cartridge casings indicate that at least one Henry or Winchester model 1866 rifle fired these casings.

**Maps:**



This map shows the locations of the cartridge casings found at Indian Position # 2.  
**Courtesy of Mel Walker**

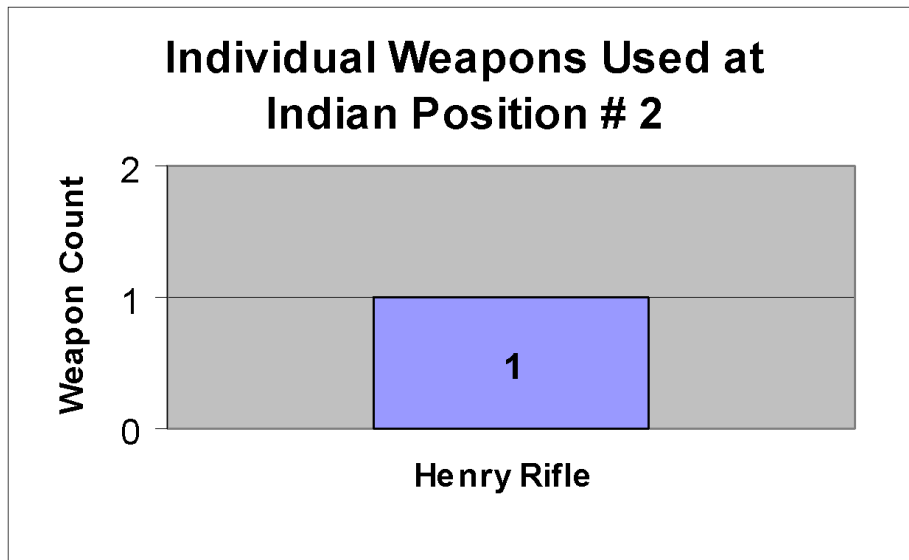
**Photos:**



This image shows Indian Position # 2. At least 1 warrior was positioned behind the slope of this position.

Courtesy of David Eckroth

#### Graphs:



This graph represents the weapons used at Indian Position #2. At least one Henry repeating rifle was fired here. The following cartridge casings were found in this position: *M1*, *M2*, and *W-1*, three .44 Henry casings. However, these cartridge casings were not subjected to the firearm identification process completed by Mr. Douglas Scott for this report.

**Position Inventory:** MTBB W1, MTBB M1, and MTBB M2 were found in this

position. These three artifacts are .44 rimfire casings, fired in a Winchester or Henry model 1866 rifle. MT BB Z9 a .45/60 WCF WRA Co. Shell casing (non- battle related artifact) was also found in this position.

**Narrative:** Indian position # 2 is the closest of the positions in the bluffs to the portion of the skirmish line occupied by the 2<sup>nd</sup> U.S. Cavalry. At least one warrior armed with a Henry or Winchester model 1866 rifle occupied this site. The archeological evidence shows that this warrior fired at least three shots at the U.S. military positions. There was no evidence (.50 cal. Impacted bullets) of return fire upon this Indian position.

### **Indian Position # 3**



**Physical Description of position:** This position is located in the bluffs, northwest of the cavalry positions in the slough and timbers. The bluffs that dominate this position are approximately 80 feet above the flood plane. The southern slope faces the slough and timbers. The northern slope provides cover and concealment for a small number of warriors engaged in the fight with Major Baker's soldiers.

**Known weaponry used at position:** The artifact remains found at this position indicate the presence of at least 1 Henry or model 1866 Winchester rifle

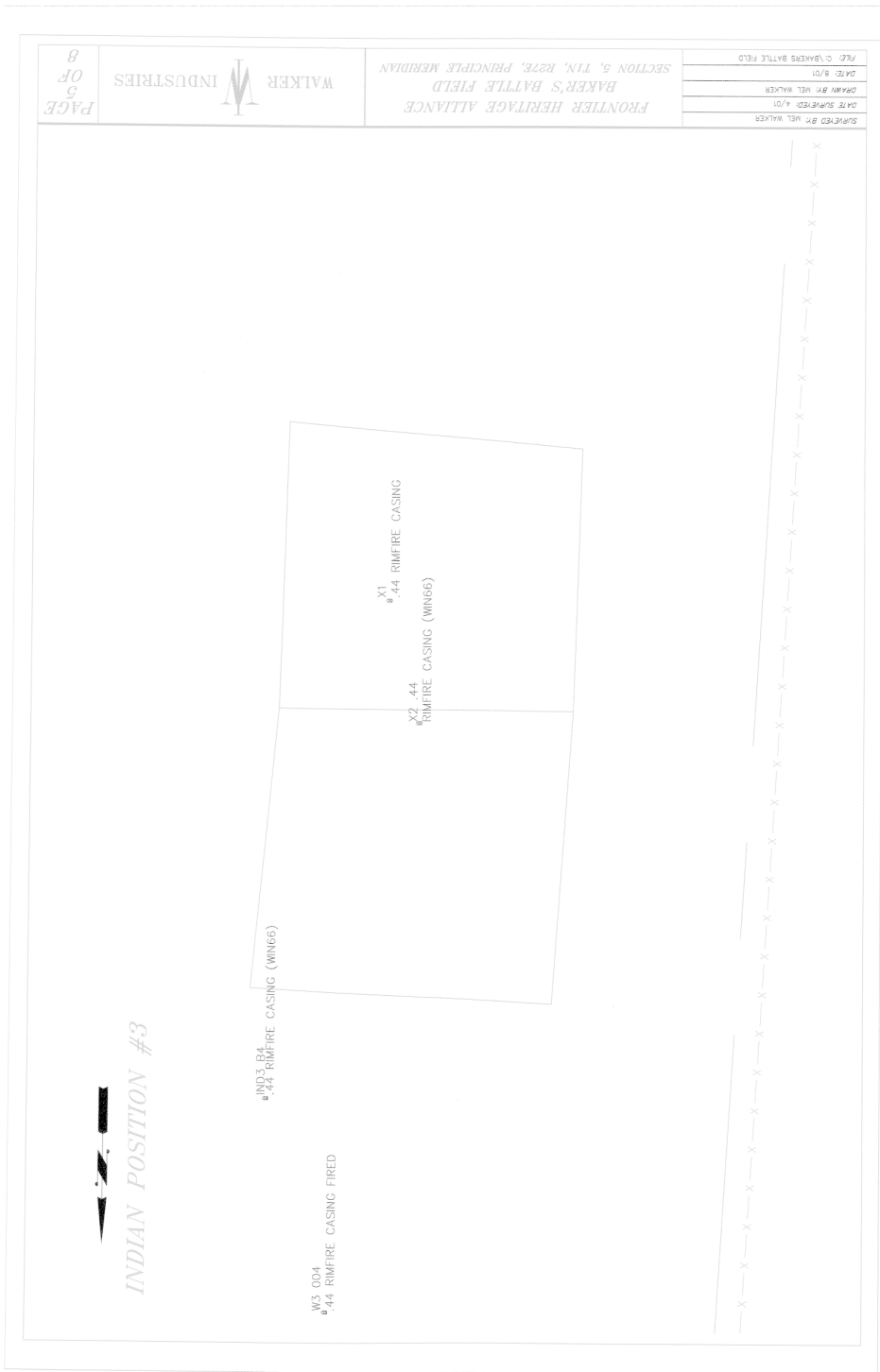
**Ammunition found:** Four .44 rimfire cartridge casings were found in this position.

**Range to enemy positions:** The range from this position to the Cavalry position in the slough and timbers is approximately 460 yards. The range to the Infantry position is nearly 930 yards. The Infantry position would not be a feasible target due to the cottonwood growth and bush adjacent to the slough and timbers and the extreme range.

**Historic Reference:** See Indian Position # 2

**Archeological evidence found at this position:** Four .44 rimfire cartridge casings (MT BB B4, X1, X2 and W3 004) were found in this position. Each of these casings had the double firing pin marks that are characteristic of cartridge casings fired in a Henry or model 1866 Winchester repeating rifle. A 450 grain .50 caliber bullet (MT BB AA16) impacted in the southern bluffs of this position. This bullet was determined to be fired from a Springfield rifle, as evidenced by the markings found on the fired bullet (3 lands and three grooves).

**Maps:**



This map shows the cluster of .44 rimfire casings fired from this position.  
**Courtesy of Mel Walker**

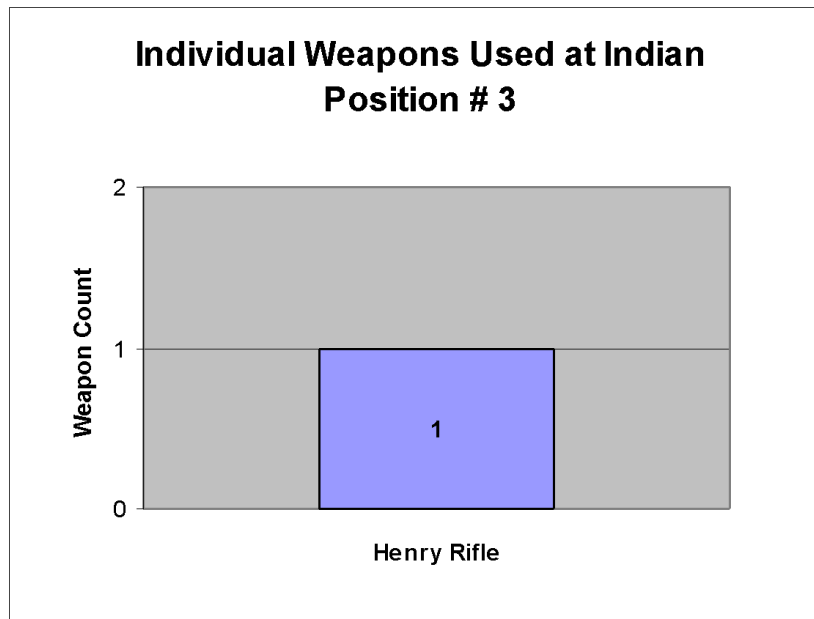
**Photos:**



This position afforded cover and concealment behind the slope shown. At least 1 warrior concealed himself behind this slope. The photo was taken from the viewpoint of the Cavalry position in the slough.

**Courtesy of David Eckroth**

**Graphs:**



This graph represents the weapons used at Indian Position #3. At least one Henry repeating rifle was fired here. The following cartridge casings were found in this position: *X1, X2, IND3 B4, W3 004*. However, these cartridge casings were not subjected to the firearm identification process completed by Mr. Douglas Scott for this report.

**Position Inventory:**

MTBB B4 .44 rimfire casing, "H" head stamp, 1 firing pin mark, fired in a Henry or model 1866 Winchester  
MTBB AA16 .450 grain .50 cal. bullet, 3L3G Springfield Rifling  
MTBB X1 .44 rimfire fired in a Henry or model 1866 Winchester  
MTBB X2 .44 rimfire fired in a Henry or model 1866 Winchester  
MTBB W3 004 .44 rimfire fired in a Henry or model 1866 Winchester

Note: 3L3G (3 lands 3 grooves)

**Narrative:** Indian Position # 3 afforded natural protection to any warriors that occupied this site. At least 1 warrior occupied this position; however, the distance between the four cartridge casings found suggests that at least 2 warriors occupied this position. There is evidence that the site was subject to return fire from the soldier positions, as evidenced by the discovery of 1 .50 caliber bullet with Springfield rifling (AA16).

#### **Indian Position # 4**

**Physical Description of position:** This position is located in the bluffs, northwest of the cavalry positions in the slough and timbers. The bluffs that comprise this position rise from the floodplain to approximately 80 feet above the flood plane. This position is lengthy stretching for approximately 500 feet. North of the northern or reverse slope lies a narrow valley. This valley is completely shielded from any opposing rifle fire from a southern direction (Major Baker's camp). This bluffs of this position open up to a vast floodplain.

**Known weaponry used at position:** The firearms identification of the cartridge cases from Baker Battlefield indicate the presence of 25 Henry or model Winchester model 1866 rifles, 1 .50 caliber trade rifle, 1 .36 caliber revolver, 6 .56/56 Spencer carbines, 2 .56/50 Spencer carbines, 3 Springfield rifles model 1866, 2 Sharps carbines, 3 Ballard rifles, 1 Smith & Wesson revolver, and 1 Remington Rifle. At least 45 individual weapons were known to be used at this position.

**Ammunition found:** .44 Rimfire, .44 Long Rimfire, .56/50 Rimfire, .56/56 Rimfire, .50/70 Bar Anvil, .50/70 Berdan, .50/70 Martin Primed, .36 Ball, and .50 Ball ammunition was found in this position.

**Range to enemy positions:** This is the largest of the Indian Positions. It is approximately 630 yards north of the cavalry positions and 830 yards northeast of the infantry section of the skirmish line located in the slough and timbers. Both the infantry and the cavalry positions are clearly seen from almost all vantage points of this Indian position.

### **Historic References:**

Major Barlow's Report gives a glimpse into the activity that occurred below the bluffs of Indian Position # 4.

About the same time that Company H pushed up the bluffs to the left of Major Baker's camp, approximately 15 men of Company F, 2<sup>nd</sup> Cavalry under Lt. Frank Grugan mounted and rode forward in an attempt to push the Indians away from the bluffs to his front. Grugan's men made it halfway across the open field, then returned to the safety of the timbers. Grugan upon reaching his furthest vantage point probably saw the large number of warriors behind the ridge and turned back. He accomplished little, but lost no lives.<sup>4</sup>

Sergeant Miscer, Company G, 7<sup>th</sup> Infantry, recalled the above incident,

Several Indians made dashes down from two points of the bench daring the soldiers to come out in they open and kept it up until one of them got shot. About this time a call was made for 20 volunteers to make a rush on to the bench to find out the number of Indians. They made the dash and while there the Indians made a dash from each point of the bench, trying to cut off those 20 men from the main command, but the move was seen by those in camp and they rushed out on foot and drove them back while the skirmishers returned. The 20 men who volunteered reported from 1,200 to 1,500 warriors.<sup>5</sup>

**Archeological evidence found at this position:** This position proved to be the largest

Indian Position on the battlefield. The large size and steep reverse slope afforded cover and concealment for a large number of warriors. Numerous cartridge casings of varying caliber were found within this position. The majority of these cartridge casings were found within 10 feet from the crest of the bluffs ranging the entire length of this position. A lesser number of cartridge casings were found lower on the reverse bluff. Less than a dozen casings were found in the front or southern slope of this position. Impacted bullets were found on the front (southern) slopes of this position and impacted bullets were found on the bluffs north of this position. The bullets and casings have been broken down into three categories for ease of study.

**Cartridge Casings Found in Indian Position # 4:** 137 .44 rimfire cartridge casings, 36 .44 long cartridge casings, 4 .56/50 cartridge casings, 8 .56/56 cartridge casings, 10 .50/70 cartridge casings, 2 .36 round balls, and 1 .50 round ball were found in this position. These cartridge casings and round balls are all typical of the types of ammunition used during 1872.

**Bullets Impacted on the South Slopes of Indian Position # 4:** The following bullets were found impacted on the front slope of this position. 1 .38 caliber bullet (non-battle-related), 1 .36 caliber bullet, 1 .44 caliber bullet, 40 .50 caliber bullets, and 2 .45 caliber bullets (non-battle related).

**Bullets Impacted on the Bluffs North of Indian Position # 4:** The following bullets were found impacted upon the bluffs northeast of this position (Overshooting Indian Position # 4). 3 .44 caliber bullets, 30 .50 caliber bullets, and 1 .45 caliber bullet (non-

battle-related).

## **Maps**





Indian position # 4 showing the grids established to plot artifact locations.

Courtesy of Mel Walker

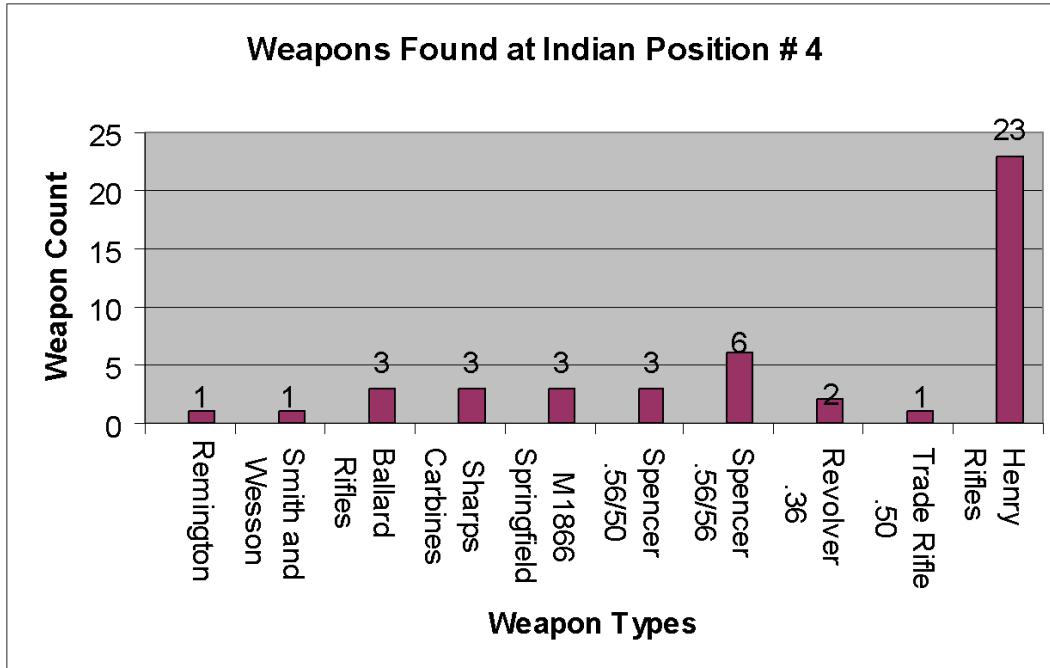
Photos:



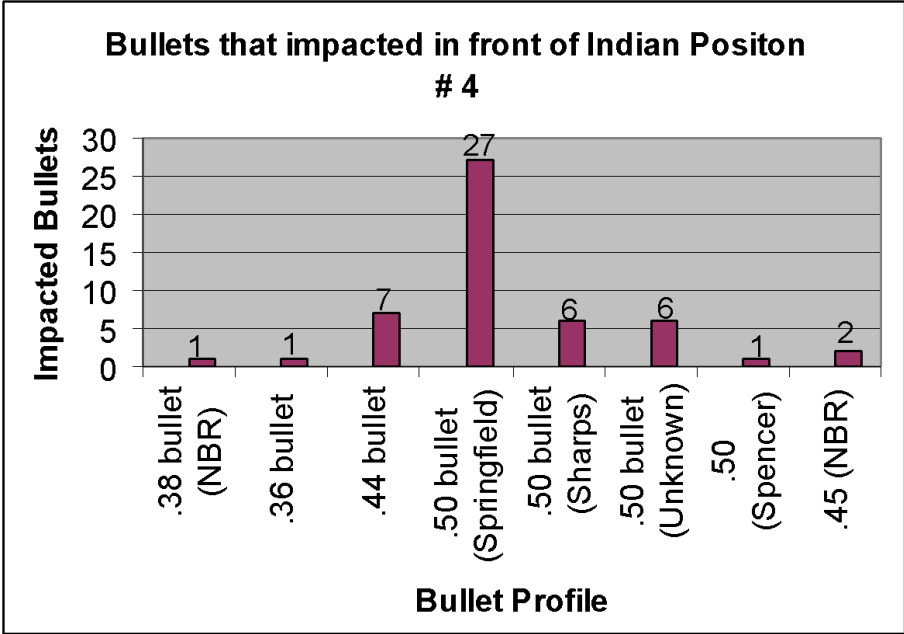
Indian position # 4 afforded cover and concealment for approximately 50 warriors and probably many more. This position afforded the best avenue of approach and withdraw. An adequate horse holding area lay behind the position. The slope of this bluff provided good cover. The view is from the Indian position out onto the flats to the north and west of the U.S. Army positions.

**Courtesy of David Eckroth**

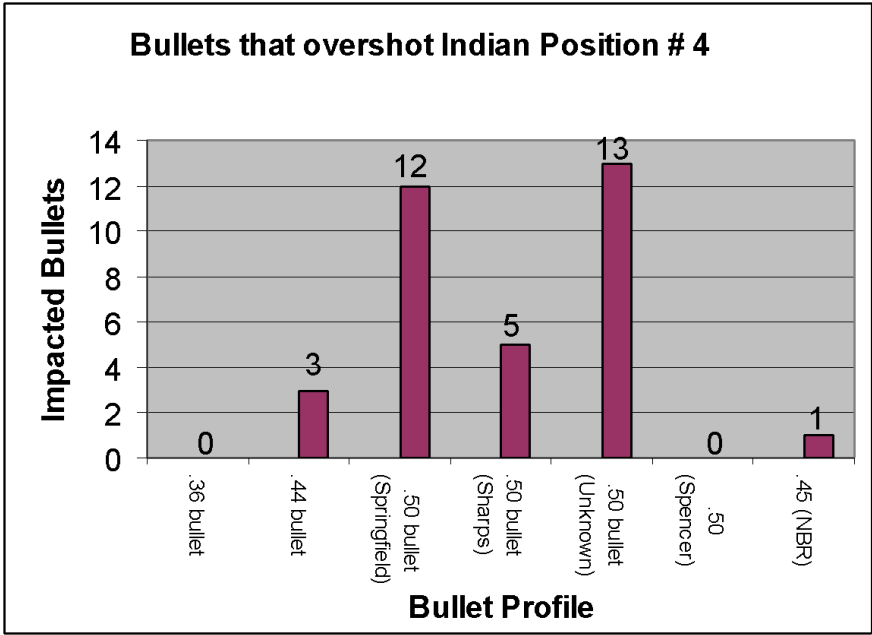
**Graphs:**



This graph depicts the firepower present at Indian Position # 4. The graph shows that 1 Remington, 1 Smith & Wesson, 3 Ballards, 3 Sharps, 3 M1866 Springfield, 2 .56-50 Spencers, 6 .56-56 Spencers, 1 .36 Revolver, 1 .50 Trade Rifle, and 25 Henry or Model 1866 Winchester were used at this position. The Remingtons extracted the following .44 long casings: *55E, 56E, 64E, W6, W7, 4B, 4C, 2G, and W4036*. The Smith & Wesson extracted the following casings: *B3E, B5E, W4021, W4201, W4003, 2-O, W4046, F1, and BB41*. The three Ballards extracted the following casings: Ballard # 3: *W9*, Ballard # 4: *2L, 4012, 2I, 2K, G9, BB45, G5* Ballard # 5: *W4055A* The Sharps carbines fired extracted the following casings: Sharps # 1: *79E*, Sharps # 4: *78E*, Sharps # 9: *N7*. The six Spencer .56-56 carbines extracted the following casings: Spencer # 1: *A2/095E*, Spencer # 2: *A1/097E*, Spencer #3: *A5/090E, G2*, Spencer # 4: *A7/100E*, Spencer # 5: *B2E*, Spencer # 6: *N6*. The two Spencer .56-50 carbines extracted the following casings: Spencer # 10: *53E, W4027*, Spencer # 11: *54E*. The four Model 1866 Springfield rifles extracted the following casings: M1866SP # 1: *C3E, 76E*, Model 1866SP # 2: *W4AA34E*, Model 1866SP # 3: *W4*, M1866SP # 5: *BB93*. The 25 Henry or Model 1866 Winchester repeating rifles extracted the following casings: Henry # 1: *60E, 71E, AA2/006E, 72E*, Henry # 2: *57E, 67E*, Henry # 7: *4G, C6E*, Henry # 8: *C6E, 43E, 58E, W5*, Henry # 9: *59E, 65E, 66E, 68E, 69E, 77E, E1*, Henry # 10: *62E*, Henry # 11: *A8/058E, E9*, Henry # 12: *A4/091E, E4*, Henry # 13: *51E*, Henry # 14: *F3, B6E, 63E, W4077*, Henry # 16: *63E, W4077*, Henry # 17: *AA64/131E*, Henry # 18: *61E*, Henry # 19: *N2E*, Henry #20: *C5E*, Henry # 21: *W4200, W4202, M5*, Henry # 22: *W4127, W4*, Henry # 23: *C2E, M8*, Henry # 25: *M9E*, Henry # 31: *W8, W4215, W4037, W4038, W4040, M9E*, Henry # 32: *X4*, Henry # 38: *W4054E, W4075*, Henry # 39: *F2, F6, G1*. The following .50 round ball was found: *4B*. The following .36 round balls were found: *AA20E, E4023*.



This graph shows that the significant incoming fire that impacted in front of Indian position # 4 originated from the Infantry positions.



This graph shows that a significant amount of the U.S. rifle fire aimed at warriors located in Indian position # 4 was high (bullets overshooting this position and landing on the face of a bluff north of Indian position # 4)

## Position Inventory:

- 051 .44 rimfire, no head stamp (NHS), 1 firing pin set, fired in a Henry or model 1866 Winchester
- 052 .56/50 rimfire, fired in a Spencer carbine or rifle
- 053 .56/50 rimfire, fired in a Spencer carbine or rifle
- 054 .56/50 rimfire, fired in a Spencer carbine or rifle
- 055 .44 long rimfire, fired in a Remington rifle
- 056 .44 long rimfire, fired in a Remington rifle
- 057 .44 rimfire, NHS, 5 firing pin sets fired in a Henry or model 1866 Winchester
- 059 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 060 .44 rimfire, NHS, 4 firing pin marks, fired in a Henry or model 1866 Winchester
- 061 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 062 .44 rimfire, "H" headstamp, 2 firing pin sets, fired in a Henry or model 1866 Winchester
- 063 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 064 .44 long rimfire, fired in a Remington rifle
- 065 .44 rimfire, NHS, fired in a Henry or model 1866 Winchester
- 066 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or Winchester model 1866.
- 067 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 068 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 069 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 070 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 072 .44 rimfire (NHS) - 10 firing pin sets, fired in a Henry or model 1866 Winchester
- 076 .50/70 casing, low crimp, Bar Anvil fired in a model 1866 Springfield
- 077 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 078 .50/70 casing, Martin primed fired in a Sharps carbine or rifle
- 079 .50/70 casing, low crimp - Bar Anvil fired in a Sharps carbine or rifle
- A1/097 .56/56 rimfire, fired in a Spencer carbine or rifle
- A2/095 .56/56 rimfire, fired in a Spencer carbine or rifle
- A3/096 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- A4/091 .44 rimfire (NHS), 3 firing pin sets, fired in a Henry or model 1866 Winchester
- A5/090 .56/56 rimfire, fired in a Spencer carbine or rifle
- A6/101 .56/56 rimfire, fired in a Spencer carbine or rifle
- A7/100 .56/56 rimfire, fired in a Spencer carbine or rifle
- A8/058 .44 rimfire, NHS, 3 firing pin marks, fired in a Henry or Winchester model 1866
- A9 .56/50 rimfire, fired in a Spencer carbine or rifle
- B1 .50/70 casing, Berdan primed
- B2 .56/56 rimfire, fired in a Spencer carbine or rifle
- B3 .44 long rimfire, fired in a Smith / Wesson firearm
- B5 .44 long rimfire, fired in a Smith / Wesson firearm
- B6 .44 rimfire, NHS, 1 firing pin set fired in a Henry or model 1866 Winchester
- C1 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- C2 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester

C3 .50/70 casing, low crimp, Bar Anvil fired in a model 1866 Springfield rifle  
 C5 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 C6 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 M6 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 M8 .44 rimfire, NHS, 5 firing pin sets, fired in a Henry or model 1866 Winchester  
 M9 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 N2 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 Z7 .44 rimfire, "H" headstamp, 1 firing pin mark, fired in a Henry or model 1866  
 Winchester  
 AA2/006 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 AA20 .41 cal. bullet with knurled cannelures indicating 1875 or later, non-battle related  
 AA38 .44 cal. Union Metallic Company (UMC) casing  
 AA42 .38 cal. center fire casing  
 AA64/131 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 AA74 450 grain .50 cal. bullet 3L3G, Springfield rifling  
 W4AA39 .50/70 low crimp, Bar Anvil casing, fired in a model 1866 Springfield  
 AA20 .36 round ball, too deformed to determine weapon type  
 B3 .44 long casing, fired in a Smith / Wesson firearm  
 AA43 .44 rimfire, 2 firing pin sets, fired in a Henry or model 1866 Winchester  
 AA58 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 AA93 .56/50 rimfire, fired in a Spencer carbine or rifle  
 AA 89 .56/50 rimfire, fired in a Spencer carbine or rifle  
 AA90 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 AA100 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 AA101 'Big Smith' button, non-battle related  
 G-3 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 G-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 G-5 .44 long rimfire, 1 firing pin set, fired in a Ballard rifle.  
 G-6 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 G-7 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 G-8 .44 rimfire, 6 firing pin sets, fired in a Henry or model 1866 Winchester  
 G-9 .44 long rimfire, 1 firing pin set, fired in a Ballard rifle  
 H-1 .44 long rimfire, 1 firing pin set, fired in a Ballard rifle  
 H-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 H-3 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 H-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 H-5 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 H-6 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 H- 7 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 H-8 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 H-9 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 2-A .44 rimfire, 4 firing pin sets, fired in a Henry or model 1866 Winchester  
 2-B .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866  
 Winchester  
 2-C .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 2-D .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

- 2-E .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-F .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-G .44 long rimfire, fired in a Remington revolver
- 2-H .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-E .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-F .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-H .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-I .44 long rimfire, fired in a Remington revolver
- 2-J .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-K .44 long rimfire, fired in a Ballard rifle
- 2-L .44 long rimfire, fired in a Remington revolver
- 2-M .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 2-O .44 long rimfire, fired in a Smith / Wesson firearm
- 4-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 4-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 4-3 .44 long rimfire, fire in a Smith / Wesson firearm
- 4-4 .44 rimfire, fired in a Henry or model 1866 Winchester
- 4-A .44 rimfire, "H" headstamp, 3 firing pin sets, fired in a Henry or model 1866 Winchester
- 4-B .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 4-C .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- W-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E4009 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E4010 .44 long rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E4011 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E4012 .44 long rimfire, fired in a Smith / Wesson firearm
- W4001 .44 long rimfire, fired in a Remington revolver
- X-3 .50/70 low crimp, Bar Anvil casing, fired in a 2<sup>nd</sup> model 1866 Springfield
- E4013 450 grain 50 cal. bullet, 3L3G, Springfield rifling
- E4015 450 grain 50 cal. bullet, 3L3G, Springfield rifling.
- 4B .50 cal. round ball (Note: 2nd use of ID number MT-BB-4-B)
- 093 .50/70 high crimp, Benet casing, fired in a model 1866 Springfield, extracted numerous times.
- M-3 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- M-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- M-5 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- M-6 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- M-7 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- M-8 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- M-9 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- N-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- N-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

- N-3 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- N-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- N-5 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- N-7 .50/70 low crimp, Bar Anvil casing, fired in a 2<sup>nd</sup> model 1866 Springfield rifle
- E4014 450 grain 50 cal. bullet, 3L3G, Springfield rifling.
- 034 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 035 .44 rimfire, 4 firing pin sets, fired in a Henry or model 1866 Winchester
- 036 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 037 .44 rimfire, 2 firing pin sets, fired in a Henry or model 1866 Winchester
- 038 .44 rimfire, fired once in a Henry or model 1866 Winchester
- 039 .56/50 rimfire, fired once in a Spencer carbine or rifle
- 040 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 041 .44 long rimfire, fired in a Smith / Wesson firearm
- 042 .44 long rimfire, fired in a Remington revolver
- 043 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 044 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 045 .44 long rimfire, fired in a Ballard rifle
- 046 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 047 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 048 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 049 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- 050 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E-3 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E-4 .44 rimfire, fired three times in a Henry or model 1866 Winchester
- E-5 .44 rimfire, fired once in a Henry or model 1866 Winchester
- E-6 .44 rimfire, fired three times in a Henry or model 1866 Winchester
- E-7 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E-8 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- E-9 .44 rimfire, "H" headstamp, 2 firing pin sets, fired in a Henry or model 1866 Winchester
- F-1 .44 long rimfire, fired in a Smith / Wesson firearm
- F-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- F-3 .44 rimfire, 7 firing pin sets, fired in a Henry or model 1866 Winchester
- F-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- F-5 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- F-6 .44 rimfire, "H" headstamp, 4 firing pin sets, fired in a Henry or model 1866 Winchester
- F-7 .44 long rimfire, fired in a Remington revolver
- F-8 .44 long rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- F-9 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- G-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester



G-2 .56/56 rimfire, fired in a Spencer carbine or rifle.

N-6 .56/56 rimfire, fired in a Spencer carbine or rifle

W4029 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4030 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4031 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4032 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4033 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4034 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4036 .44 long rimfire, fired in a Remington revolver

W4037 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4038 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4039 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4040 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4041 .44 rimfire, 3 firing pin sets, fired in a Henry or model 1866 Winchester

W4042 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4043 .44 rimfire, 4 firing pin sets, fired in a Henry or model 1866 Winchester

W4045 .44 long rimfire, fired in a Ballard rifle

W4046 .44 long rimfire, fired in a Smith / Wesson firearm

W4047 .50/70 Martin primed, appears to be fired in a Sharps

W4048 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4049 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4050A .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4051A .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4053A .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4054A .44 rimfire, "H" headstamp, 3 firing pin sets, in a Henry or model 1866 Winchester

W4055A .44 long rimfire, fired twice in a Ballard rifle

W4075 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4076 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4077 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

Non labeled brass rivet

E4016 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

E4017 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

E4018 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester

W4025 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W026 Brass Gorget, Probably Arapaho or Sioux

W4027 .56/50 rimfire, fired in a Spencer carbine or rifle

W4002 .50/70, low crimp, Bar Anvil casing, fired in a 2<sup>nd</sup> model 1866 Springfield

X-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W-4 .50/70 high crimp, Benet casing, fired in a Sharps, extracted from various weapons

W-5 .44 rimfire, 2 firing pin sets, fired in a Henry or model 1866 Winchester  
 W-6 .44 long rimfire, fired in a Remington revolver  
 W-7 .44 long rimfire, fired in a Remington revolver  
 W-8 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W-9 .44 long rimfire, fired in a Ballard rifle  
 4-A .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 4-B .44 long rimfire, fired in a Remington revolver  
 4-C .44 long rimfire, fired in a Remington revolver  
 4-D .44 long rimfire, 1 firing pin set, fired in a Remington revolver  
 4-E .44 rimfire, 5 firing pin sets, fired in a Henry or model 1866 Winchester  
 4-F .44 rimfire, 5 firing pin sets, fired in a Henry or model 1866 Winchester  
 4-G .44 rimfire, 5 firing pin sets, fired in a Henry or model 1866 Winchester  
 W4201 .44 long casing, fired in a Smith / Wesson firearm  
 W4200 .44 rimfire, cursive "H", 1 firing pin set, fired in a Henry or model 1866  
 Winchester  
 W4202 .44 rimfire, cursive "H", 1 firing pin set, fired in Henry or model 1866  
 Winchester,  
 W4214 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W4215 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 E4229 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

#### **Front face of Indian Position #4**

AA3 220 grain .44 cal. bullet, lands, grooves indicate Henry / Model 1866  
 Winchester  
 AA67 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 AA68 450 grain .50 cal. Bullet, too deformed to determine weapon that fired it.  
 P7 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 AA70 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 AA72 450 grain .50 cal. bullet, appears to be fired in a Sharps  
 P4 .38 cal. bullet with knurled cannelures indicating 1875 or later, non-battle related  
 082 450 grain .50 cal. bullet, 6L6G, Sharps rifling  
 AA80 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 AA39 450 grain .50 cal. Bullet, too deformed to determine weapon that fired it.  
 E4013 450 grain, 50 cal. bullet, 3L3G, Springfield rifling  
 E4014 450 grain, 50 cal. bullet, 3L3G, Springfield rifling  
 E4015 450 grain, 50 cal. bullet, 3L3G, Springfield rifling  
 4A 450 grain, 50 cal. bullet, 3L3G, Springfield rifling  
 W4003 fragment of a 450 grain, .50 cal. bullet, too deformed to determine  
 weapon that fired it.  
 073 450 grain, 50 cal. bullet, 6L6G, fired in a Sharps  
 074 450 grain, 50 cal. bullet, 3L3G, Springfield rifling  
 075 405 grain, .45 cal. bullet, 3L3G, Springfield rifling Note: not battle  
 related; soldiers did not obtain the 45/70 cal. weapons and ammunition until  
 1874)  
 3-1 Unknown cal. bullet, 3 rings

- W4035 450 grain .50 cal. bullet 3L3G, Springfield rifling
- E4019 .50 cal. 2 ring Spencer bullet, 3L3G, fired in a Spencer
- E4020 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- E4021 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- E4022 .50 cal. Sharps, 6L6G, fired in a Sharps
- E4023 .36 cal. pointed nose bullet, 6L6G, left twist, probably from a Navy Colt Revolver
- E4024 .450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- E4029 2 ring bullet fragment, probably .44 cal., too deformed to determine weapon that fired it.
- W-3 .44 cal. bullet, 2 ring, 5L5G, fired in a Henry or model 1866 Winchester
- X-5 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- X-6 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- X-7 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- X-8 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- X-9 bullet fragment, 2 ring, unknown caliber
- E4001 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- E4002 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- E4003 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- E4004 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- E4005 450 grain, .50 cal. bullet fragment, too deformed to determine weapon that fired it.
- E4006 450 grain, .50 cal. bullet fragment, too deformed to determine weapon that fired it.
- E4007 .44 cal. 3 ring bullet, knurled in the cannelures, post-dates battle
- E4008 .44 cal. 3 ring bullet, knurled in the cannelures, post-dates battle
- 119 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- 120 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- 121 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- 123 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- 124 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- V-1 450 grain, .50 cal. bullet, 6L6G, Sharps rifling
- V-8 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- V-9 .44 cal. bullet, too deformed to determine weapon that fired it.
- Y-1 bullet fragment, 2 rings, too deformed to determine weapon that fired it.
- E4230 bullet fragment, probably a .450 grain, .50 cal., too deformed to determine weapon that fired it.

**Cornfield In front of Indian Position #4**

- AA18 horse accoutrement
- AA19 450 grain .50 cal. bullet, deformed, although it appears to be fired in a Sharps
- P1 horse accoutrement
- AA107 .45 cal. bullet, undetermined weapon type

**Bullets that overshot Indian Position #4: These artifacts were found in hill facing, and northeast of Indian position #4.)**

- AA9 .38 to .44 cal. bullet, too deformed to determine weapon fired from
- AA10 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- AA12 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- AA14 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- AA22 220 grain .44 cal. bullet, lands, grooves indicate Henry / model 1866 Winchester
- AA61 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA76 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA73 450 grain .50 cal. bullet, 3L3G Springfield rifling
- AA75 450 grain .50 cal. bullet , too deformed to determine weapon that fired it.
- P5 horseshoe (heavily corroded)
- AA15 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- 087 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- AA79 450 grain .50 cal. bullet, 6L6G, Sharps rifling
- AA13 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- AA11 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- AA71 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- AA83 450 grain .50 cal. bullet, 6L6G, Sharps rifling
- C9 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- L9 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- L8 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- P9 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- P6 .44 cal. smooth bodied conical bullet fired in a Sharps
- P8 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- B7 450 grain .50 cal. bullet, 6L6G, Sharps rifling
- C7 .45 cal. bullet fired from a model 1873 Springfield
- AA14 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA62 450 grain .50 cal. bullet, 6L6G, Sharps rifling
- AA63 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA84 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA85 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA99 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA98 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- AA97 220 grain .44 cal. lands / grooves indicate Henry / model 1866 Winchester
- E5233 450 grain .50 cal. bullet too deformed to determine weapon that fired it.
- E5236 .44 cal. Colt, paper wad style

**Narrative:** Indian position # 4 is a lengthy bluff that stretches approximately 500 feet.

Cartridge cases in significant numbers were found along the entire length of the reverse slope of this position. In addition approximately a dozen cartridge casings have been

found on the southern slopes of this position. Impacted bullets were found on the southern slopes of this position as well as on the bluffs north of this position. These casings and impacted bullets indicate a heated engagement at this position. North of the reverse slope of Indian Positions # 4 is a valley which afforded excellent protection for a large number of horses. This valley not only afforded cover for the horse herd but also provided access to and from the battlefield without exposure to enemy rifle fire.

It was clear that a large number of well-armed warriors occupied this position. Following the professional artifact analysis study of the cartridge casings found at this position we know that at least 23 of these men were armed with Henry or model 1866 Winchester rifles, 8 of these men were armed with a variation of the Spencer carbine, 3 were armed with Springfield model 1866 rifles, 3 were armed with Sharps carbines, 3 with Ballard rifles, 1 with a .50 caliber trade rifle, with a Remington rifle, 1 with a Smith and Wesson revolver and at least 1 armed with a .36 caliber revolver.

The impacted bullets both in front of this position and those that overshot this position indicate that both the Cavalry (armed with Sharps carbines) and Infantry (armed with Springfield rifles) fired upon this position. The great majority of the impacted .50 caliber bullets bore markings indicative of Springfield and Sharps weapons.

## **Indian Position # 5**

**Physical Description of position:** This position is located on the top of bluffs approximately 20 yards southwest of Indian Position # 6. This position is the only Indian Position found in the bluffs which did not take advantage of the cover of a reverse slope.

**Known weaponry used at position:** The firearms identification of the cartridge cases from Baker Battlefield indicate the presence of at least 1 Henry or model 1866 Winchester rifle

**Ammunition found:** Three .44 rimfire cartridge casings were located in this position.

**Range to enemy positions:** The location of this Indian position is approximately 880 yards northeast of the Cavalry positions and 950 yards northeast of the Infantry positions in the slough and timbers. Both the Infantry and Cavalry sections of the skirmish line could be seen from Indian Position # 5.

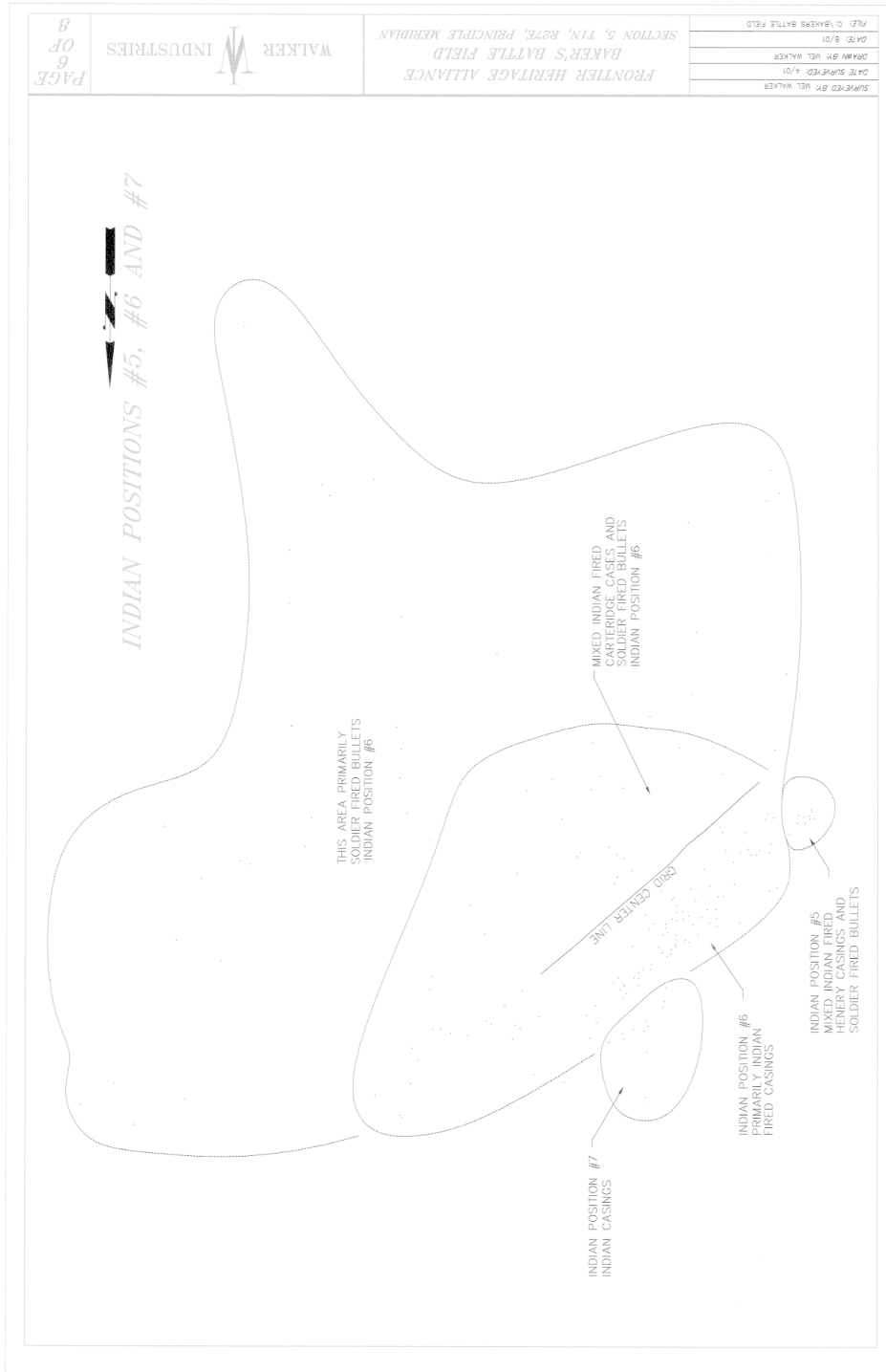
**Historic Reference:** See Indian Position # 2

**Archeological evidence found at this position:** Three .44 rimfire cartridge casings fired in a Henry or model 1866 Winchester rifle were found in this position (MT BB N-8, U-5, U-6, and U-7). A .44 center fire casing (non-battle-related) and a .44/40 casing (non-battle-related) were also found in the vicinity of this position.

Three impacted bullets were also uncovered on the front (southern) slopes of this position. 1 .50 caliber bullet (E5001) was fired in a Springfield rifle, 1 of the bullets was .45 caliber (probably non-battle-related) and the third bullet found (E5237) was a .36

caliber bullet of an early design which could be battle related but not probable due to the small caliber of the bullet and the distance to the enemy positions.

**Maps:**



This map shows the artifact cluster areas that make up Indian Positions # 5, 6 and 7. U.S. Soldier bullet impact areas are also indicated on this map.

**Courtesy of Mel Walker**



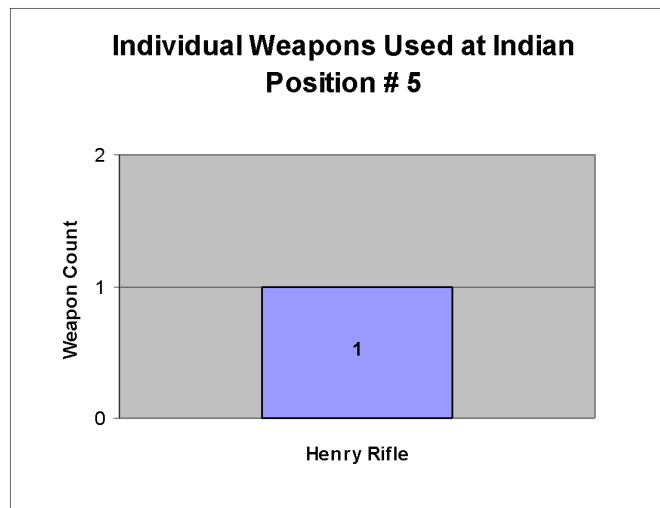
**Photos:**



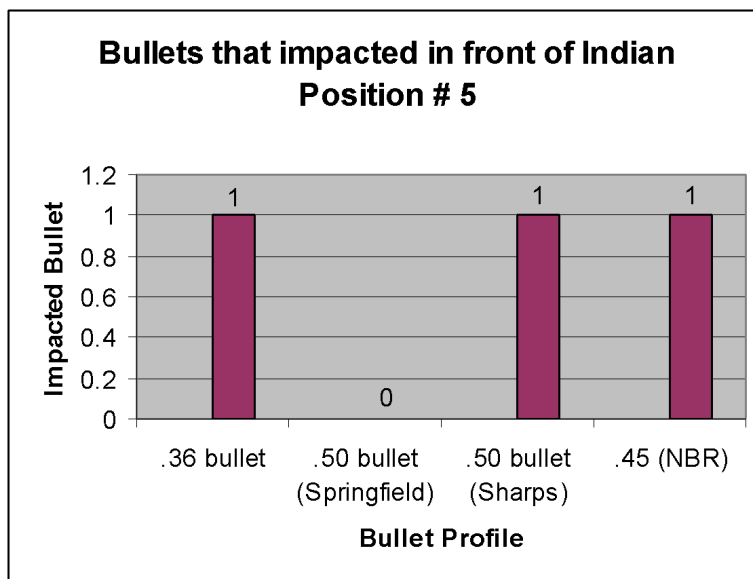
Indian Position # 5 was not a typical position. It did not have the slope (cover and concealment) that the other sites provided. This position lies on the plateau above the slope facing Major Baker's camp. It is improbable that more than 1 warrior occupied this position on the battlefield.

**Courtesy of Mike Turley**

**Graphs:**



This graph depicts the firepower present at Indian Position # 5. The Henry or Model 1866 Winchester repeating rifle (Henry # 43) at this position fired the following .44 casings: *U5, U6, and U7*.



This graph shows potential U.S. return fire that impacted in front of Indian Position # 5.

**Position Inventory:**

**Cartridge casings found at Indian Position # 5**

- L7 .44 Colt casing, center fire, non-battle related
- N-8 .44/40 casing, fired in a model 1873 Winchester, not battle related
- U-5 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- U-6 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- U-7 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

**Bullets found on front slopes of bluffs of Indian Position # 5**

- E5001 450 grain, .50 cal. bullet, 3L3G, Springfield rifling
- E5002 215 grain bullet .45 caliber, hollow base, fired in a Colt or Schofield revolver
- E5237 .36 cal. bullet, pre-cartridge casing design

**Narrative:** The three .44 rimfire casings found at this position indicate that at least 1 warrior occupied this position during a portion of this battle. The occupier of this position would have been more exposed than the majority of the warriors who used the cover and concealment of reverse slopes. However, this warrior would only have to go a

short distance to obtain adequate cover and concealment (Indian Position # 6, which lay approximately 20 feet distant).

## **Indian Position # 6**

**Physical Description of position:** This position is the second largest of the Indian Positions. This position had a lengthy range of reverse slope which afforded excellent cover and concealment for numerous Sioux and allied warriors. This position also had a well-defined avenue of approach along Seven-Mile Creek, which also was completely shielded from opposing rifle fire. North of this position was a large opening of flatland shielded by the bluffs which would provide protection for a large horse herd.

**Known weaponry used at position:** The firearms identification of the cartridge cases and bullets from Baker Battlefield indicate the presence of Henry or model 1866 Winchester rifles, , Springfield rifles, Ballard rifles, Spencer carbines, Sharps carbines and .44 caliber revolvers.

**Ammunition found:** .44 Rimfire, .44 Long Rimfire, .56/50 Rimfire, .56/56 Rimfire, .50/70 Bar Anvil, .50/70 Benet, .50/70 Martin Primed, .44 Round Ball,

**Range to enemy positions:** This position is approximately 932 yards north of the Cavalry positions and 1056 yards northeast of the Infantry positions located in the slough and timbers.

**Historic Reference:** See: Indian Position # 2

**Archeological evidence found at this position:** This position proved to be the second largest Indian Position on the battlefield. The lengthy and steep reverse slope afforded cover and concealment for a large number of warriors. Numerous cartridge casings of

varying caliber were found within this position. As was the case with Indian Position # 4, the majority of these cartridge casings were found within 10 feet from the crest of the bluffs ranging the entire length of this position. A lesser number of cartridge casings were found lower on the reverse bluff. Impacted bullets were found on the front (southern) slopes of this position and impacted bullets were found on the bluffs east of this position. The bullets and casings have been broken down into three categories for ease of study.

**Cartridge Casings Found in Indian Position # 6 :** 126 .44 rimfire cartridge casings, 20 .44 long cartridge casings, 2 .56/50 cartridge casings, 3 .56/56 cartridge casings, 9 .50/70 cartridge casings, and 1 .44 round ball were found in this position.

**Bullets Impacted on the South Slopes of Indian Position # 6:** The following bullets were found impacted on the front slope of this position. 1 .32 caliber bullet, 6 .44 caliber bullets, 27 .50 caliber bullets, 1 .56 caliber bullet, 1 .38 caliber bullet (post-battle) and 1 .45 caliber bullet (post battle).

**Bullets Impacted within Indian Position # 6:** 2 .50 caliber bullets impacted within the boundaries of Indian Position # 6. These bullets probably impacted above the slopes and landed within the confines of the reverse slopes of this position.

**Bullets Impacted on the slopes of the Bluffs North East of Position # 6:** 5 .50 caliber bullets and 1 .44 caliber bullet impacted on the lower face of the slopes of the bluffs North West of Indian Position # 6.

**Maps: (See Indian Position # 5 Map Section)**

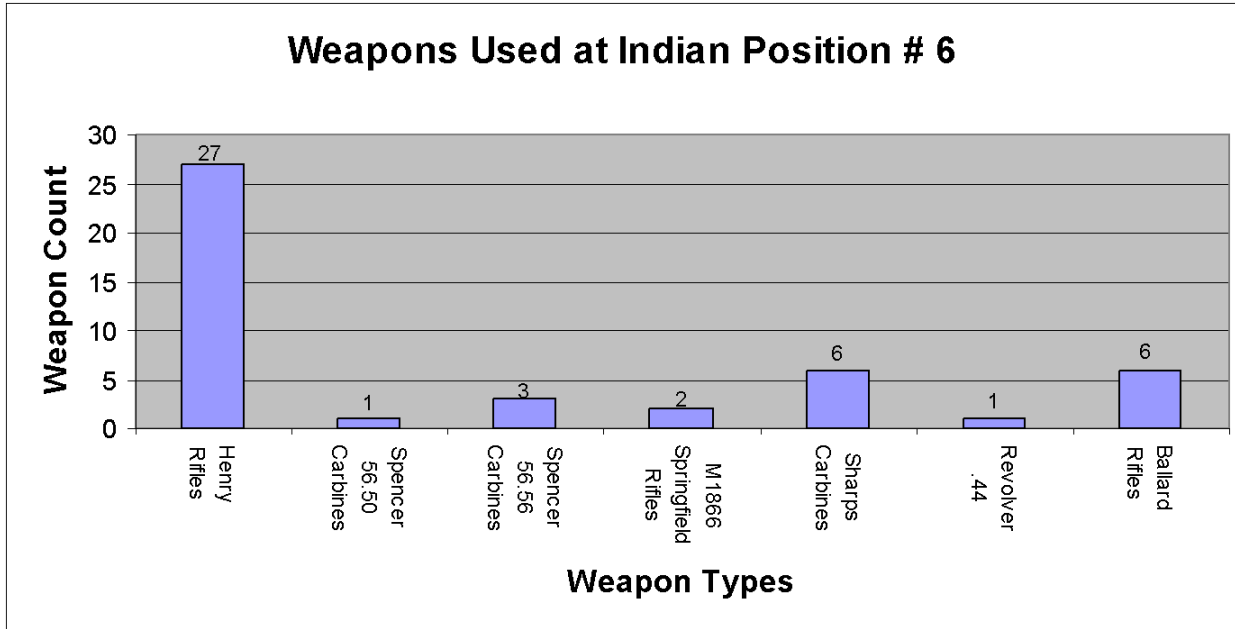
**Photos:**



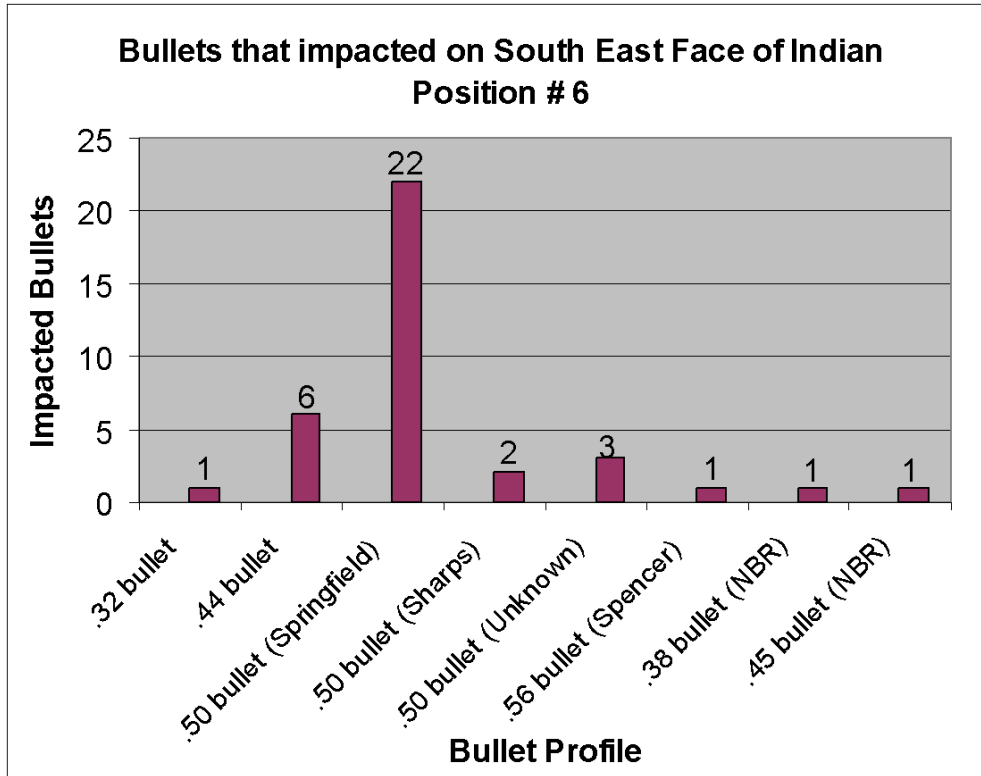
Indian Position # 6 was the second largest Indian position on the field. It provided good cover and concealment. Approximately 50 warriors occupied this position on the battlefield. Like Indian position # 4 it was in close proximity to an adequate horse holding area and a good avenue of approach which was concealed from the soldiers. This position was likely used as a point of origin for the dare rides.

**Courtesy of David Eckroth**

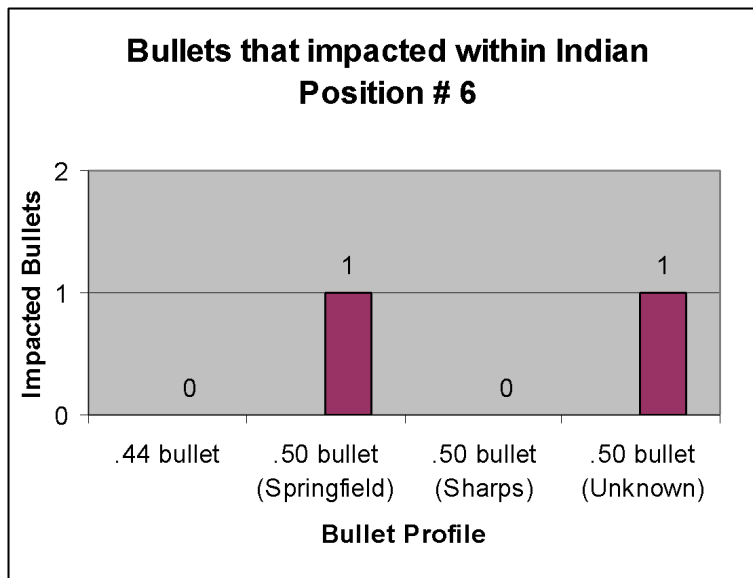
**Graphs:**



This graph depicts the firepower present at Indian Position # 6: The following casings were extracted from the 27 Henry or Model 1866 Winchester repeating rifles: Henry # 1: *C4E, I3*, Henry # 2: *K2E, K4E, K6E, K7E, 3E, 6E, V4*, Henry # 3: *L4E, 82E*, Henry # 4: *R4E*, Henry # 5: *R6E*, Henry # 6: *T5E, BB92*, Henry # 7: *79E*, Henry # 8: *D6E*, Henry # 12: *J4E, J6E*, Henry # 20: *BB88, 87A*, Henry # 21: *D1A, D2E, D3E, D5E, I5E, I8E, I9E, J1E, J2E, L5E, U4, 6B, 1C, W6050*, Henry # 22: *S1E, S2E, S5E*, Henry # 23: *P9, R8E, R9E, S2E, S3E, 6A, 1B*, Henry # 24: *D7E, I7E, K8E, S8E*, Henry # 25: *I2E, I4E, J5E, J7E, J8E, J9E, V3, V5*, Henry # 26: *D8E, D9E, L3E*, Henry # 27: *S7E, 4B*, Henry # 28: *S6E*, Henry # 29: *IIE, D4E*, Henry # 30: *W6003, W605*, Henry # 33: *W6502*, Henry # 34: *X1, BB87*, Henry # 35: *1E, BB85*, Henry #36: *1J*, Henry # 37: *W6049*, Henry # 42: *O1*, Henry # 44: *U1*. The 5 Ballard rifles extracted the following cartridge cases: Ballard # 1: *L1E, L2E, R3E, E6001, E6002, 6D, 1I, O1A, O2A, O3*, Ballard # 2: *80E, B1AE, W6004, W6501*, Ballard # 5: *E6002*, Ballard # 6: *1H*, Ballard # 7: *1G, 6C*. The 2 Model 1866 Springfield rifles extracted the following cartridge casings: M1866SP # 3: *V6*, M1866 SP # 4: *W6013*. The 2 Spencer .56-56 carbines extracted the following cartridge casings: Spencer # 7: *1S*, Spencer # 8: *1Q*. The Spencer .56-50 carbine extracted the following cartridge casing: Spencer # 12: *E6055*. The 6 Sharps carbines extracted the following casings: Sharps # 1: *W6047*, Sharps # 5: *P2E*, Sharps # 6: *1P, E6056, W6012*, Sharps # 7: *R2*, Sharps # 9: *W6AA39E*, Sharps # 10: *1-M*.



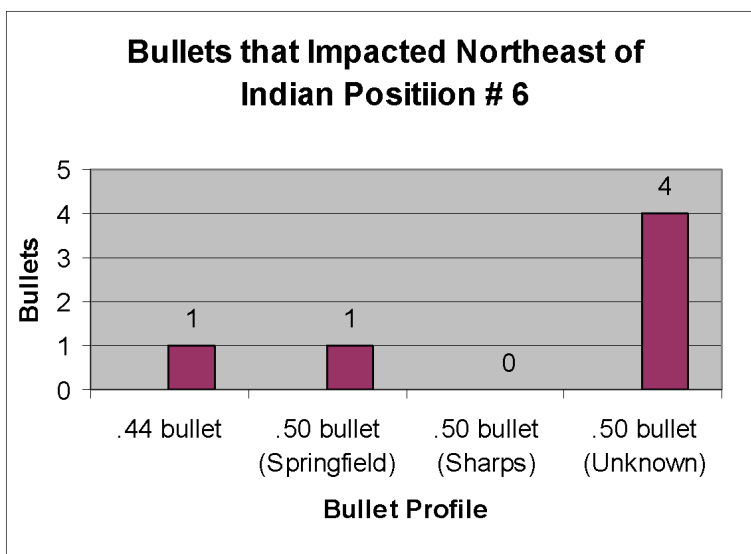
This graph indicates that the majority of incoming fire came from the Infantry. There is a presence of Springfield and Spencer bullets which could indicate light fire originating from Cavalry and or civilian origin.



This graph indicates that at least 2 .50 caliber bullets struck very close to the warriors located in this position. It is possible that these two bullets impacted in front of



the bluffs and bounced into this position.



The bullets shown on this graph struck near the bottom of the bluffs east of Indian Position # 6. These bullets indicate at least one Springfield (presumably an Infantry member). The other four bullets were also of the .50 caliber design.

### Position Inventory:

- D1 .44 long rimfire, fired in a Ballard rifle
- D1A .44 rimfire, cursive H, 2 firing pin sets, fired in a Henry or model 1866 Winchester
- D2 .44 rimfire, cursive H, firing pin set, fired in a Henry or model 1866 Winchester
- D3 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- D4 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- D5 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- D5A .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- D6 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- D7 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester
- D8 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- D9 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- I1 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- I2 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- I4 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- I7 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- I8 .44 rimfire, cursive H, 2 firing pin sets, fired in a Henry or model 1866 Winchester
- I9 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J1 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J2 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J3 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester

- J4 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J5 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J6 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J7 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J8 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- J9 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K1 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K2 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K3 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K4 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K5 .44 rimfire, NHS, 2 firing pin sets, fired in a Henry or model 1866 Winchester
- K6 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K7 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K8 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- K9 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- L1 .44 long rimfire, fired in a Ballard rifle
- L2 .44 long rimfire, four indentations near center, fired in a Ballard rifle
- L3 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- L4 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- L5 .44 rimfire, cursive H, 1 firing pin set, fired in a Henry or model 1866 Winchester
- L6 .44 extra long, center fire casing
- P3 .44 long rimfire, fired in a Ballard rifle
- R1 .50/70 low crimp, Bar Anvil casing
- R2 .50/70 Martin primed casing, fired in a Sharps
- R3 .44 long rimfire, 2 firing pin marks, fired in a Ballard rifle
- R4 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- R5 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- R6 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- R7 .56/56 rimfire casing fired in a Spencer carbine or rifle
- R8 .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester
- R9 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- S1 .44 rimfire, NHS, 1 firing pin mark - small triangle mark on base, near center
- S2 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- S3 .44 rimfire, NHS, 2 firing pin sets, fired in a Henry or model 1866 Winchester
- S5 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- S6 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- S7 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- S8 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- T1 .25 cal. Stevens short rimfire, circa 1902 – 1942, firing pin marks unidentified
- T3 450 grain .50 cal. Govt. bullet too deformed to determine weapon that fired it.
- T5 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- T6 large square nail
- T8 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.
- T9 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester
- Z1 medium square nail

C4 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 I3 .44 rimfire, NHS, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 AA69 .44 cal. round ball, poor casting, firearm type undetermined  
 AA77 large square nail  
 X-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 X-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 N-9 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-1A .44 long rimfire, fired in a Ballard rifle  
 O-2 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-2A .44 long rimfire, fired in a Ballard rifle  
 O-3 .44 long rimfire, fired in a Ballard rifle  
 O-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-4A .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866  
 Winchester  
 O-5 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-5A .44 long rimfire, 2 firing pin marks, fired in a Ballard rifle  
 O-6 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-6A .44 rimfire, fired in a Ballard rifle  
 O-7 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-7A .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-8 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-8A .44 long rimfire, fired in a Ballard rifle  
 O-9 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 O-9A .44 long rimfire, 2 firing pin marks, fired in a Ballard rifle  
 P-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 P-2 .44 long rimfire, fired in a Ballard rifle  
 P-3 .44 long rimfire, fire in a Ballard rifle  
 P-4 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 P-5 .44 long rimfire, fired in a Ballard rifle  
 P-6 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 P-7 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 P-8 .44 rimfire, 3 firing pin sets, fired in a Henry or model 1866 Winchester  
 P-9 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 U-1 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 U-2 .44 rimfire, 1 firing pin set, fired times in a Henry or model 1866 Winchester  
 U-3 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 U-8 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 U-9 .44 rimfire, fired in a Ballard rifle  
 V-3 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 V-4 .44 rimfire, 5 firing pin sets, fired in a Henry or model 1866 Winchester  
 V-5 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 V-6 .50/70 high crimp, Benet casing fired in a Sharps, and extracted from numerous  
 .50 cal. Weapons (2<sup>nd</sup> model 1866 Springfield, 1868 or 1870 Springfield, etc).  
 W6047 .50/70 Martin primed casing, fired in a Sharps  
 W6048 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

W6049 .44 rimfire, "H" headstamp, 1 firing in set, fired in a Henry or model 1866 Winchester  
 W6050 .44 rimfire, 2 firing pin sets, fired in a Henry or model 1866 Winchester  
 W6051 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6052 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 E6055 .56/.50 rimfire, fired in a Spencer carbine  
 E6056 .50/70 Martin primed casing, fired in a Sharps carbine or rifle  
 W6057 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-A .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-B .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-C .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-E .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-G .44 rimfire, fired in a Ballard rifle  
 1-H .44 rimfire, fired in a Ballard rifle, and misfired two times in a Henry or model 1866 Winchester  
 1-I .44 long rimfire, fired once in a Ballard rifle  
 1-J .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-K .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-L .44 rimfire, 2 firing pin sets, fired in a Henry or model 1866 Winchester  
 1-M .50/70 Martin primed casing, fired in a Sharps carbine or rifle  
 1-N .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-O .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-P .50/70 Martin primed, fired in a Sharps carbine or rifle  
 1-Q .56/56 rimfire, fired in a Spencer carbine  
 1-R .56/56 rimfire, fired in a Spencer carbine  
 1-S .56/56 rimfire, fired in a Spencer carbine  
 1-T .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-U .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-V .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-W .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 1-X .22 long rimfire, US headstamp, fired once, not battle related  
 084 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 085 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 086 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 087 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 087A .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 088 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 089 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 090 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 091 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 092 .44 rimfire, 7 firing pin sets, fired in a Henry or model 1866 Winchester  
 6-A .44 rimfire, "H" headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 6-B .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester

6-C .44 rimfire, fired in a Ballard rifle  
 6-D .44 long rimfire, 3 firing pin marks in a Ballard rifle  
 6-E .44 rimfire, fired once in a Henry or model 1866 Winchester  
 E6001 .44 long rimfire, fired in a Ballard rifle  
 E6002 .44 long rimfire, fired in a Ballard rifle  
 E6006 (E6-2) .44 rimfire, fired in a Henry or model 1866 Winchester  
 W6007 (E6-A3) .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6008 (E6-A4) .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6009 (E6-A5) .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6010 (E6-A6) .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6012 (E6-A7) .50/70 Martin primed casing, fired in a Sharps carbine or rifle  
 W6013 (E6-A8) .50/70 low crimp, Bar Anvil casing, fired in a Sharps carbine or rifle  
 W6001 .50 cal. 450 grain, 3L3G bullet, Springfield rifling  
 W6002 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6003 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6004 .44 long rimfire, fired in a Ballard rifle  
 W6005 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6501 .44 long rimfire, 2 firing pin marks, fired in a Ballard rifle  
 W6502 .44 rimfire, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 W6503 .56/50 Spencer, fired once in a Spencer carbine or rifle

**Artifacts that were found in Indian Position # 6, unknown location (unclear in field notes):**

I6 .44 rimfire, cursive H headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 6XX3 .44 rimfire, NHS, unusual firing pin mark Shell casing - 3 firing pin sets, 1 circular indentation at center of base, fired in a Henry or model 1866 Winchester  
 I5 .44 rimfire, NHS, cursive H headstamp, 1 firing pin set, fired in a Henry or model 1866 Winchester  
 A18 .45/70 casing, non-battle related

**South East Face of Indian Position #6:**

115 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 116 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 117 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 Z2 .45 cal. bullet, too badly deformed to determine weapon that fired it.  
 Z3 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.  
 Z4 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.  
 AA23 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 Z6 450 grain .50 cal. bullet, 6L6G, Sharps rifling  
 AA78 450 grain .50 cal. bullet, 3L3G, Springfield rifling

114 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 T4 200 grain .44 bullet 6L6G probably fired in a Henry / model 1866 Winchester  
 T2 .32 cal. 6L6G, undetermined manufacture  
 T7 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 Z5 500 grain bullet, 6L6G, hollow base, unknown caliber  
 205 wagon wrench  
 118 450 grain, .50 cal. bullet, 3L3G, Springfield rifling  
 AA91 .44 cal. bullet, undetermined manufacture  
 E6227 450 grain, .50 cal. bullet, too deformed to determine weapon that fired it.  
 E6224 .56 cal. bullet fired in a Spencer  
 1-D .44 cal. bullet, 6L6G, probably fired in a Henry or Winchester  
 1-F 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 6-001 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 6-002 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 6-003 .38 cal. bullet, probably not battle related  
 6-004 405 grain .45 cal. bullet, 3L3G, Springfield rifling  
 1-Y 450 grain .50 cal. bullet, difficult to read lands or grooves  
 1-Z .44 cal. bullet (difficult to read lands or grooves)  
 E6003 (6A-1) 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 E6004 (E6-2) 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 E6-003 .44 cal. bullet, 5L5G, fired in a Henry or model 1866 Winchester  
 E6-004 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 E6005 (W6-A1) 450 grain .50 cal. bullet, 3L3G, Springfield rifling  
 W6011 bullet fragment  
 W6006 405 grain .45 cal. bullet, 6L6G, unknown rifling  
 W6053 450 grain, .50 cal. bullet, 3L3G, Springfield rifling  
 E6058 .44 cal. Govt. bullet, 6L6G, fired in a civilian gun.  
 W6059 450 grain .45 cal. bullet, 3L3G, Springfield rifling, not battle related  
 W6500 .50 cal. 450 grain, 3L3G bullet, Springfield rifling  
 W6239 Unknown lead bullet fragment  
 6226 .450 grain, 50 cal. .50/70 bullet, 3L3G, Springfield rifling  
 6228 .450 grain, 50 cal. .50/70 bullet, 3L3G, Springfield rifling  
 6231 .45 or .50 cal. bullet, 6L6G  
 6232 .450 grain, .50 cal. .50/70 bullet, 3L3G, Springfield rifling  
 6235 .450 grain, .50 cal. 50/70 bullet, 6L6G, Sharps rifling

**Bullet Position northeast of Indian Position # 6: (bluffs to the northeast of Indian Position # 6, across the stream)**

O4 450 grain, .50 cal. bullet, 3L3G, Springfield rifling  
 AA102 .44 cal. bullet, too deformed to determine manufacture  
 AA103 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.  
 AA104 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.  
 AA105 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.  
 AA106 450 grain .50 cal. bullet, too deformed to determine weapon that fired it.

**Narrative:** Indian position # 6 is a bluff that stretches for approximately 250 feet.

Cartridge cases in significant numbers were found along the entire length of the reverse slope of this position. In addition nearly a dozen cartridge casings have been found on the southern slopes of this position, ranging from the top of the southern slope to the bottom of the bluffs. Impacted bullets were found within this position, on the southern slopes of the bluffs and at the bottom of the bluffs northeast of this position.

These casings and impacted bullets indicate a heated engagement at this position. North of the reverse slope of Indian Positions # 6 lies Seven Mile Creek neighbored on both sides by an open stretch of flatland which provided a natural and well concealed avenue of approach. A large open flatland concealed by the bluffs lies north of Indian Position # 6, which afforded excellent protection for a large number of horses.

It was clear that a large number of well-armed warriors occupied this position.

Following the firearm identification analysis of the cartridge casings found at this position we know that at least 27 of these men were armed with Henry or model 1866 Winchester rifles, 4 of these men were armed with a variation of the Spencer carbine, 2 were armed with Springfield model 1866 rifles, 6 were armed with Sharps carbines, 6 with Ballard rifles, with a Remington rifles, and at least 1 was armed with a .44 caliber revolver.

The impacted bullets both in front of Indian Position # 6 and those that overshot this position indicate that both the 2<sup>nd</sup> Cavalry (armed with Sharps carbines) and 7<sup>th</sup> Infantry (armed with Springfield rifles) fired upon this position. The greatest majority of the

impacted .50 caliber bullets bore markings indicative of Sharps carbines.

**Indian Position # 7**

**Physical Description of position:** This position is located on the reverse (north) slope of the bluffs north of Indian Position # 6. These bluffs were in an area that is completely out of view from any soldier positions. This position faced the probable horse holding area and avenue of approach to the north.

**Known weaponry used at position:** Artifact remains indicate that this position was occupied by at least two warriors armed with Henry and 1 armed with a model 1866 Springfield rifle.

**Ammunition found:** Two .44 rimfire cartridge casings and 1 .50/70 Martin Primed cartridge casing were found on the reverse slope of this bluff.

**Range to enemy positions:** This position's range to enemy targets is immaterial. The line of sight is completely blocked by the bluffs directly to the west.

**Historic Reference:** There is no recorded historical reference to this Indian Position.

**Archeological evidence found at this position:** The two .44 rimfire casings bear the double firing pin markings indicative of the Henry or model 1866 Winchester rifle. The .50/70 cartridge casing has the firing pin and extractor markings of a model 1866 Springfield rifle.



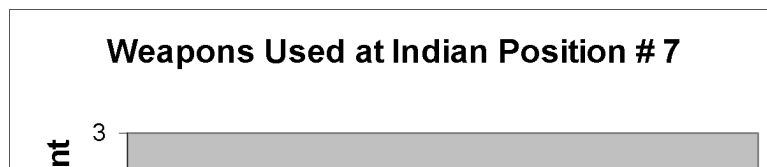
**Maps: (See Indian Position # 5 Map Section)**

**Photos:**



This position was probably only used to clear weapons of unspent ammunition.  
A unique Henry casing was found in this position. It had firing pin marks completely across the rim (at least 15 misfires).

**Courtesy of David Eckroth**



**Graphs:**

This graph depicts the weapons used at Indian Position # 7. The two Henry or model 1866 Winchester repeating rifles extracted the following casings: *W6AA62*, *W6AA63*. *W6AA63* has two firing pin sets, which are deeper than the other battlefield samples. The model 1866 Springfield rifle extracted the following casing: *W6AA34*, a Martin primed .50/70 cartridge casings.

**Position Inventory:**

*W6AA34* .50/70 casing, Martin primed, fired in a model 1866 Springfield  
*W6AA62* .44 rimfire, NHS, (At least 15 firing pin sets), fired in a Henry or model 1866 Winchester  
*W6AA63* .44 rimfire, NHS, 2 firing pin sets, (Seems wider and deeper, than most samples) fired in a Henry or model 1866 Winchester

**Narrative:** This position appears to have served as an area for warriors to expend cartridge casings which have misfired or jammed. This supposition is due to the many firing pin marks found on the .44 rimfire cartridge casing labeled *W6AA62*. The other .44 rimfire cartridge casing also has additional firing pin sets indicative of a misfired bullet. This position was too distant and not within view of any soldier positions. It was not used to engage soldiers, rather it was used to clear faulty ammunition from weapons.

**Infantry Positions**

**Physical Description of position:** The Infantry portion (Companies C, E, G, and I, 7<sup>th</sup> Infantry) of the Skirmish Line was located in the eastern portion of the slough and Timbers. This area stretches from the point where the Yellowstone River meets the slough and continues approximately half the length of the entire slough. The slough was entirely surrounded by cottonwood trees and a growth of willow and rose bush.

**Known weaponry used at position:** Artifact evidence, namely extractor and firing pin

marks indicates that Springfield model 1866 and / or model 1868 Rifles were used by the soldiers in this position. Some .50/70's located in this position may have been fired in Sharps Carbines. The reason for this supposition is that some of the Cavalry sentries may have become dispersed with the Infantry units during this battle.

Historical documentation further suggests that the majority of the .50/70 cartridge casings in this area were fired by Springfield rifles.

Fort Shaw underwent an inspection on June 23, 1873. The results of that inspection are as follows:

... Arms and Ammunition excellent, and equipment ... fair and of the old kind, except Co "D", supplied with the new ...<sup>6</sup>

The statement, "old kind" can be constituted as the model 1866 to 1870 Springfield rifle. The "new" that Company "D" was issued can be ascertained as the Model 1873 Springfield, which fired a caliber .45/70 bullet.

A letter from Inspector General N.H. Davis to R.B. Marcy, War Department, Washington D.C., further indicates that the infantry in the Middle District were armed with Springfield Breech Loading Cal. 50 rifles. The soldiers of Fort Rice, when inspected, had on hand 162 Breech L. S. B. Cal. 50 models of 1866 and 1868.(7)

**Ammunition found:** Numerous .50/70 Bar Anvil cartridge casings and .50/70 Benet cartridge casings, a .45/70 cartridge casing, a .32 center fire cartridge casing, a .46/50 bottleneck style cartridge casing and a .44 caliber bullet were found in this position.

**Range to enemy positions:** The Infantry portion of the skirmish line is fairly lengthy as it stretches hundreds of yards in length. The right flank of this position is approximately 830 yards from targets located in Indian position #4, 950 yards from Indian position #5 and 1056 yards from Indian position #6. It is highly unlikely that these soldiers fired at targets in Indian position #1, 2, or 3 due to the heavy density of the brush and timber which masked these positions. The left flank of this position is approximately 810 yards from Indian position # 5, 845 yards from Indian position # 6 and approximately 1005 yards to the Indian Headquarters. From this portion of the Infantry skirmish line it is highly unlikely that these soldiers fired at targets in Indian positions # 1, 2, 3, and 4.

**Historic Reference:**

Sergeant Fred W. Miscer, Company G, 7<sup>th</sup> Infantry, in an article published in the National Tribune, August 11, 1904 noted,

The Infantry rose and poured volley after volley into them; men were kept busy bringing out ammunition, and the concentrated fire of both cavalry and infantry was terrific. Every man stood his post, and the order was finally given to charge the brushes and slough. This was done with cheers and yells by the troops, and the Indians weakened, retreated to the bottomland beyond.<sup>8</sup>

Sergeant Miscer further stated,

We now took position behind cottonwoods and bushes, and fought them for 20 minutes or more, using tree trunk for a gun-rest and shelter. Many wounded Indians had reached the edge of the timber, and the main body stopped firing,

devoting their energies to carrying off their wounded, as to leave them in the hands of the enemy was a deep disgrace; and they displayed great skill in horsemanship, as they would throw themselves onto the pony's side, showing only one leg – a small mark at 300 to 400 yards, while others quickly dismounted and threw a wounded brother on to the saddle. Soon after they retreated to the foothills, and for two hours could be seen forming in line, apparently, and spreading into column not over three-quarters of a mile.<sup>9</sup>

Lieutenant Bradley, 7<sup>th</sup> Infantry, who interviewed participants of the fight noted,

It was now growing light, and seeing the movement of the troops toward the point of the attack, but ignorant that while it was yet dark two whole companies had taken foreword, but ere they emerged into view Lt. Reed discovered the movement in the sudden rustling and swaying of the willows in his front, and promptly swept the covert with his fire, pouring three volleys by company into the timber ... Indians swarmed from the timber like bees and spurred their horses away for the bluffs in headlong flight. As they passed the remainder of the line, Companies C, G, and I also opened fire and completed their utter discomfiture.<sup>10</sup>

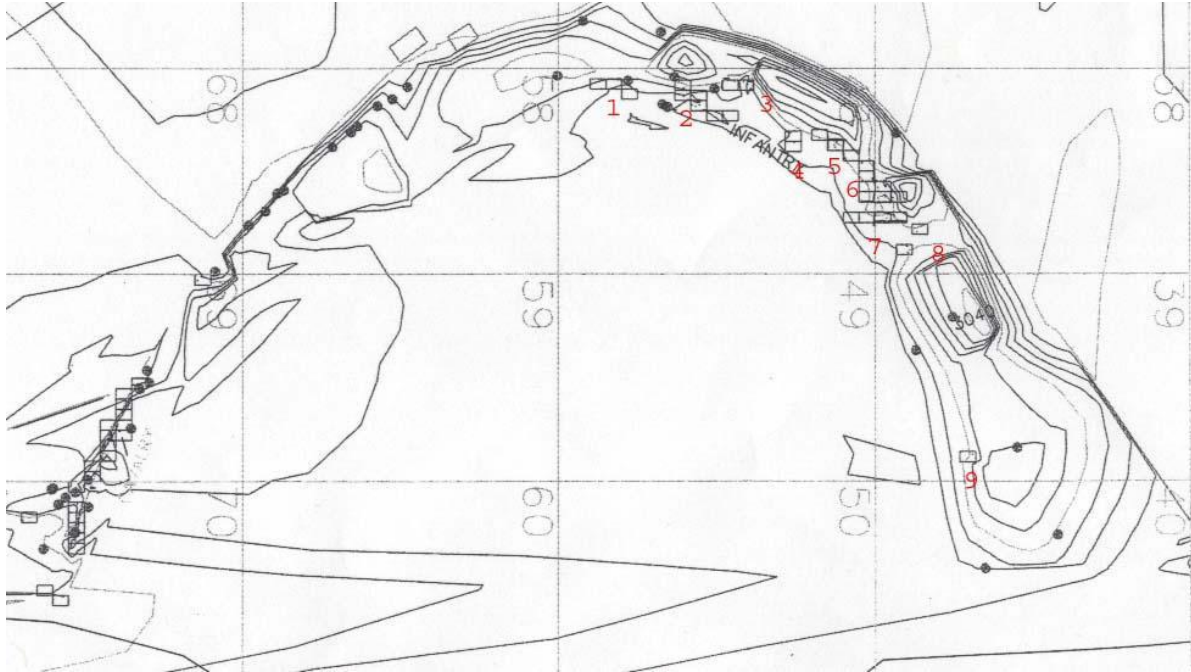
**Archeological evidence found at this position:**

The majority of the artifacts found in this position were .50/70 casings, both Bar Anvil and Benet style. These styles were consistent with ammunition issued for the Sharps carbines and Springfield rifles used by the soldiers in this position. The principal investigators noted that the artifacts were distinctly separated into groups which were

broken down into Positions. Positions are defined as Artifact Clusters that are distinctly separated from other Artifact Clusters. Groups are defined as artifact remains found within an extremely close proximity (within a few feet).

The investigators found 9 distinctly different positions within the Infantry portion of the Skirmish Line. Within the 9 Infantry Positions, there were 51 groups in the Infantry portion of the skirmish line.

**Maps:**



This map shows the nine areas of concentration of soldier artifacts found in the Infantry portion of the skirmish line (slough and timbers). This map serves as a guide to the inventory section relating to the Infantry positions.

**Courtesy of Mel Walker**

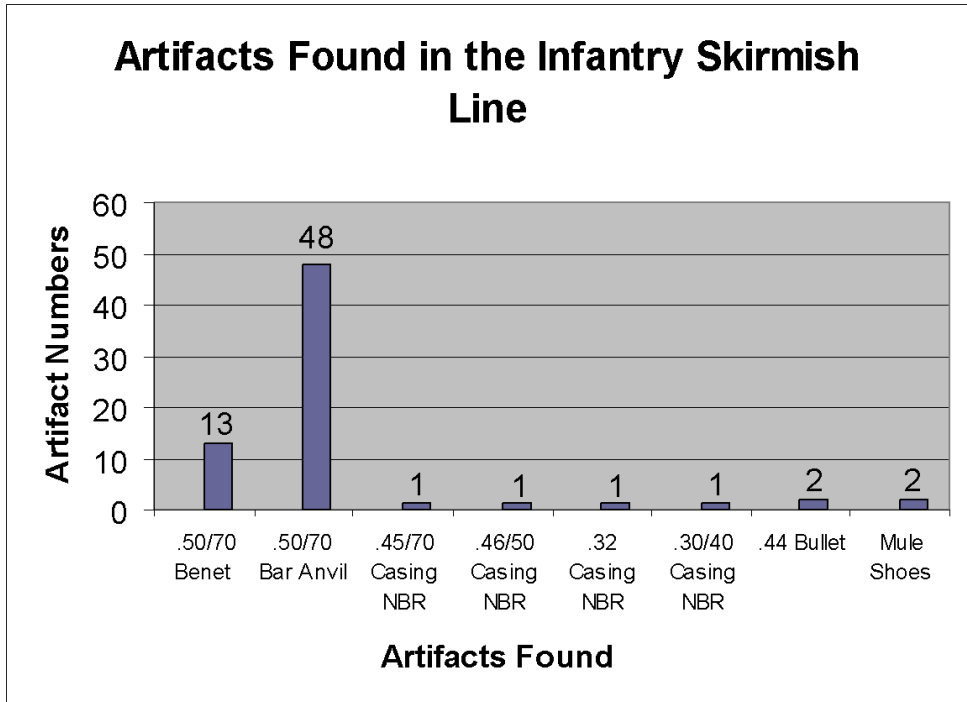
**Photos:**



This view is typical of the topography of the Infantry section of the perimeter.  
The degree to which the vegetation covers this section may have changed is undetermined but the profile of the area is much as it was at the time of the battle.  
**Courtesy of David Eckroth**

**Graphs:**





The .50/70 Benet and Bar Anvil cartridge casings are consistent to the issue of ammunition Major Baker’s soldiers were known to have used during the battle. The .45/70 cartridge casing found clearly post-dates the fight. The .45/60 and .32 caliber casings also post date the battle. The two .44 bullets would be consistent of the ammunition used by many of the warriors. These two bullets impacted very close to .50/70 cartridge casings found. The two mule shoes were found within 10 feet of a small group of .50/70 cartridge casings.

**Position Inventory:**

**Infantry Position #1: (farthest left Infantry position)**

**Group 1**

INF 304 .50/70 high crimp, Benet casing - 12 TYR 02153 82087

**Infantry Position #2: (approximately 150 yards from bridge over ditch / slough leading to fields)**

**Group 2**

- INF 013 .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100
- INF 015A .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100
- INF 014B .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100
- INF 014 .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100
- INF 014A .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100
- INF 014C .50/70 high crimp, Benet casing - 12 TYR 02202 82100

INF 014D .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100  
INF 014E .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100  
INF 014F .50/70 low crimp, Bar Anvil casing - 12 TYR 02202 82100

**Group 3**

INF 017 center fire casing, NBR casing - 12 TYR 02212 82096  
INF 016 .50/70 high crimp, Benet casing - 12 TYR 02212 82096

**Group 4**

INF 006 .50/70 low crimp, Bar Anvil casing

**Group 5**

INF 009 .50/70 high crimp, Benet casing - 12 TYR 02213 82100  
INF 007 .50/70 high crimp, Benet casing - 12 TYR 02209 82091  
INF 018 .50/70 low crimp, Bar Anvil casing - 12 TYR 02213 82100

**Group 6**

INF 001 .50/70 low crimp, Bar Anvil casing - 12 TYR 02212 82090

**Group 7**

INF 002 .50/70 low crimp, Bar Anvil casing - 12 TYR 02221 82085

**Group 8**

INF 003 .50/70 low crimp, Bar Anvil casing - 12 TYR 02216 82092  
INF 004 .50/70 low crimp, Bar Anvil casing - 12 TYR 02216 82092

**Group 9**

INF 005 .50/70 low crimp, Bar Anvil casing - 12 TYR 02236 82077

**Group 10**

INF 008 .50/70 low crimp, Bar Anvil casing - 12 TYR 702214 82088

**Group 11**

INF 012 .50/70 cartridge, Bar Anvil casing - 12 TYR 01317 81598

**Group 12**

INF 015 .50/70 high crimp, Benet casing - 12 TYR 02221 82085

**Group 13**

INF 273 upper half of a .50/70 unfired Bullet -12 TYR 02245 82074

**Non-battle related artifacts found in Infantry Position # 2**

INF 058 .45/70 casing fired in a Springfield rifle, not battle related

**Infantry Position # 3: (Area to the right of Infantry Position #2, along the slough)**

**Group 14**

INF 055 .50/70 low crimp, Bar Anvil casing - 12 TYR 02253 82101

**Group 15**

INF 056 200 grain (approximately) .44 cal. Pointed nose bullet - 12 TYR 02244 82109

**Group 16**

INF 060 .50/70 high crimp, Benet casing - 12 TYR 02247 82103

**Non-battle related artifacts found in Infantry Position # 3**

INF 082 .32 cal. Pistol casing - 12 TYR 02241 82108

**Infantry Position # 4: (Area South and Right of Infantry Position # 3 and close to dirt road, not along slough)**

**Group 17**

INF 081 .50/70 low crimp, Bar Anvil casing

**Group 18**

INF 097 .50/70 low crimp, Bar Anvil casing - 12 TYR 02245 82074

**Infantry Position # 5: (Area West of Infantry Position # 4 and along slough)**

**Group 19**

INF 061 .50/70 low crimp, Bar Anvil casing - 12 TYR 02300 82066

**Group 20**

INF 066 .50/70 low crimp, Bar Anvil casing

**Group 21**

INF 067 .50/70 low crimp, Bar Anvil casing

**Group 22**

INF 068 .50/70 low crimp, Bar Anvil casing - 12 TYR 02309 82071

**Group 23**

INF 069 .50/70 low crimp, Bar Anvil casing - 12 TYR 01317 81598

**Group 24**

Cartridge casing, post-battle design, unlabelled

**Infantry Position # 6: (Area south of Infantry Position # 5 and along slough)**

**Group 25**

INF 051 .50/70 low crimp, Bar Anvil casing

**Group 26**

INF 085 .50/70 low crimp, Bar Anvil casing

**Group 27**

INF 090 .50/70 low crimp, Bar Anvil casing

INF 091 .50/70 low crimp, Bar Anvil casing

**Group 28**

INF 042 .50/70 low crimp, Bar Anvil casing

**Group 29**

INF 043 .50/70 low crimp, Bar Anvil casing

INF 043B .50/70 low crimp, Bar Anvil casing

**Group 30**

INF 044 .50/70 low crimp, Bar Anvil casing

**Group 31**

INF 047 .50/70 low crimp, Bar Anvil casing

**Group 32**

INF 020 .50/70 low crimp, Bar Anvil casing

**Group 33**

INF 048 .44 cal., 215 grain bullet, 5L5G

**Group 34**

INF 041 .50/70 high crimp, Benet casing

INF 049 .50/70 high crimp, Benet casing

**Group 35**

INF 023 .50/70 low crimp, Bar Anvil casing

- 12 TYR 02350 82039

INF 024 .50/70 low crimp, Bar Anvil casing

- 12 TYR 02358 82004

**Group 36**

INF 022 .50/70 low crimp, Bar Anvil casing

- 12 TYR 02346 82038

**Group 37**

INF 021 .50/70 high crimp, Benet casing

**Group 38**

INF 025 .50/70 low crimp, Bar Anvil, misfire

**Group 39**

INF 026 .50/70 low crimp, Bar Anvil, unfired -12 TYR 02346 82043

**Group 40**

INF 011 .50/70 high crimp, Benet casing - 12 TYR 02345 82048

**Group 41**

INF 270 mule shoe (found approximately 10 feet west of this position)

INF 271 mule shoe (found approximately 10 feet west of this position)

**Infantry Position # 7: (Area South of Infantry Position # 6)**

**Group 42**

INF 0680 .50/70 low crimp, Bar Anvil casing

**Group 43**

INF 053 .50/70 low crimp, Bar Anvil casing - 12 TYR 02344 82025

**Group 44**

INF 057 .50/70 low crimp, Bar Anvil casing - 12 TYR 02351 82025

**Group 45**

INF 052 .50/70 low crimp, Bar Anvil casing - 12 TYR 02347 82024

**Group 46**

INF 054 .50/70 high crimp, Benet casing

**Infantry Position # 8: (Area South of Infantry Position # 7)**

**Group 47**

INF 063 .50/70 low crimp, Bar Anvil casing - 12 TYR 02361 82009

**Group 48**

INF 092 .50/70 low crimp, Bar Anvil casing - 12 TYR 02363 82008

INF 093 .50/70 low crimp, Bar Anvil casing - 12 TYR 02362 82003

**Group 49**

INF 094 .50/70 high crimp, Benet casing - 12 TYR 02354 82027

INF 095 .5070 low crimp, Bar Anvil casing - 12 TYR 02365 82001

**Group 50**

INF 059 .46/50 bottleneck casing - non-battle related

**Infantry Position # 9: (South of Infantry Position # 8, site of Hagen, Feyhl cartridge casing find)**

**Group 51**

MHS .50/70 low crimp, Bar Anvil casing

**Methodology:**

Locating the artifacts in this position was a difficult task. The artifacts were located at depths ranging from 6 to over 20 inches. The reason for the depths of the artifacts in this portion of the battlefield can be blamed on the nature of the Yellowstone River. This region lies within the flood plain of the river and has been subject to flooding since 1872.

The metal detectors used in this position, even with the help of hot head coils, designed to increase the search depth, were pushed to their limits when trying to locate artifacts in this position. The deepest of the artifacts found were barely detectable.

The conditions of the soil also impacted the odds of uncovering artifact remains. When the soil was moist the signal emitted by the metal detector when an artifact was located would be amplified. If the soil was dry there would often be no signal at all.

Understanding U.S. military behaviors, including spatial patterns of soldiers in a skirmish line proved to be helpful in locating artifact positions. The obvious locations were initially investigated. These areas included the rear slopes of berms or any areas that provided natural cover and concealment. In many circumstances these locations

were used by the soldiers in this position as evidenced by unearthed .50/70 cartridge casings. When one cartridge casing group was found, the area would be thoroughly investigated. A consistent pattern was discovered. Adjacent groups of cartridge casings were found to be separated by no more than 5 to 15 feet in most cases. The discovery of these groups of casings soon led to the reconstruction of the skirmish line.

## **Cavalry Positions**

**Physical Description of position:** The Cavalry portion (Companies F, G, H and L, 2nd Cavalry) of the Skirmish Line was located in the western portion of the slough and Timbers. This area stretches across the western half of the slough and timbers. Like the description of the slough in the Infantry portion of this report, the slough was entirely surrounded by cottonwood trees and a growth of willow and rose bush. One landmark that now identifies this position is a soldier's headstone (SGT McClarren's headstone).

**Known weaponry used at position:** The majority of the cartridge casings found in this area of the battlefield were fired in Sharps model 1868 Conversion Carbines. In some cases the extractor marks and distinct firing pin marks are apparent on the cartridge casings. A lesser number of the casings could have been fired in Springfield rifles. The reason for this supposition is that some of the Infantry sentries may have been dispersed with the Cavalry units during this battle.

Historical documentation further supports the archeological findings in this area of the battlefield. John McAuley, author of *Carbines of the U.S. Cavalry 1861 – 1905* noted that by December of 1870, the 2<sup>nd</sup> Cavalry Regiment was armed with 957 M1868 Sharps Carbines.<sup>11</sup> McAuley's information was derived from the Ordnance Department's Report from December 31, 1870 and reinforces the physical (excavated) evidence that the 2<sup>nd</sup> Cavalry at the time of Baker's Battle, was armed with the M1868 altered Sharps Carbines<sup>12</sup> and the model 1868 Springfield Rifle (two banded breech loading Musket).<sup>13</sup>

**Ammunition found:** The majority of the ammunition found in this portion of the battlefield is of the .50/70 Bar Anvil and .50/70 Benet style. A .50/70 Martin Primed



cartridge casing was found in this position. 3 .45/70 cartridge casings (not-battle-related) a .44 caliber bullet, and a .50 caliber bullet were also found in this position.

**Range to enemy positions:** The Cavalry portion of the skirmish line is approximately 475 yards from Indian position # 1, 440 yards from Indian position #2, 460 yards from Indian position # 3, 670 yards from Indian position # 4, 880 yards from Indian position # 5, and 930 yards from Indian position # 6.

**Historic Reference:**

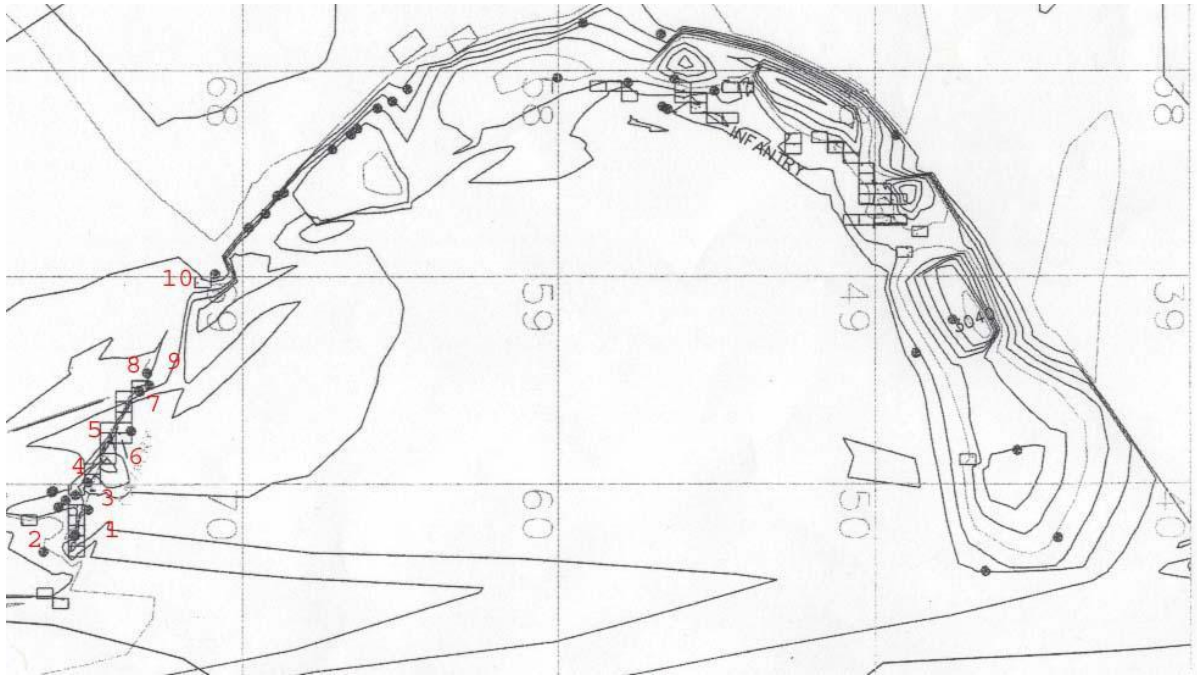
“We soon pressed forward and regained the timber along the slough, from which the pickets had retired. The Indians did not try to hold it, as might have been expected; they were, perhaps, surprised in their turn at the promptness and vigor of our defense. The semicircle of trees once more in our possession we felt comparatively safe.”<sup>14</sup>

**Archeological evidence found at this position:**

The majority of the artifacts found in this position much like the Infantry position were .50/70 casings, both Bar Anvil and Benet style. As was the case for the Infantry Portion of the battlefield, it was noted that the artifacts were distinctly separated into groups which were broken down into positions.

The investigators found 10 distinctly different positions within the Cavalry portion of the Skirmish Line. Within these Cavalry Positions, there were 17 groups or clusters of Artifacts. The size of the groups in this area ranged from as little as 1 artifact to as many as 29 artifacts.

**Maps:**



This map shows the ten areas of concentration of soldier artifacts found in Cavalry portion of the skirmish line (slough and timbers). This map serves as a guide to the inventory section relating to the cavalry positions. These artifacts are found on maps 69 and 70.

**Courtesy of Mel Walker**

**Photos:**

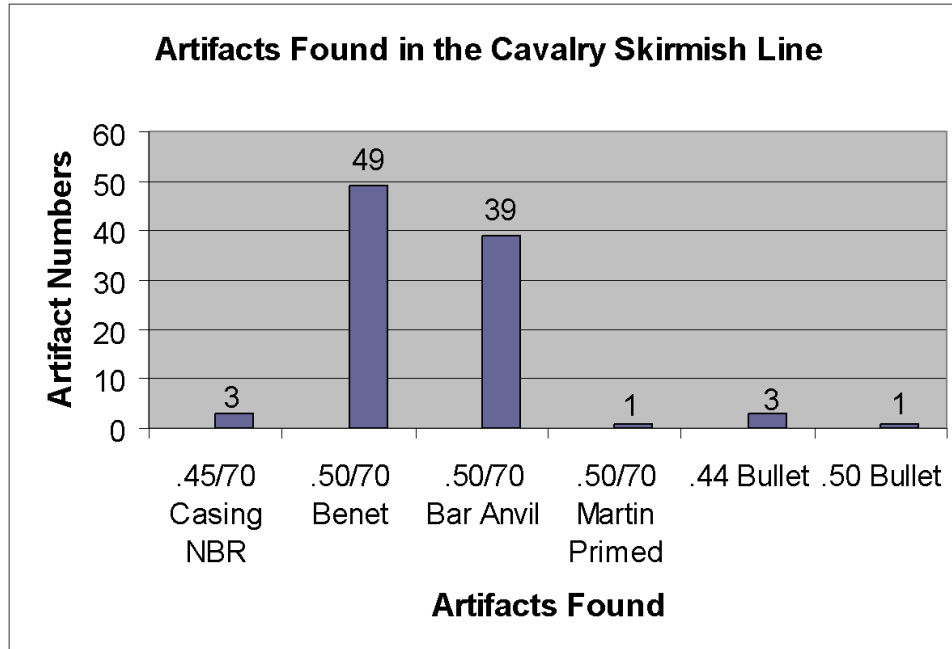


View of the typical profile in the cavalry section of the perimeter.  
**Courtesy of David Eckroth**



View of the majority of the U.S. Army perimeter as seen from Indian position # 4.  
**Courtesy of David Eckroth**

**Graphs:**



This graph indicates that the Cavalry portion of the skirmish line was the scene of significant action. This is indicated by the numerous .50/70 cartridge casings found. The .45/70 casings found postdate the fight. The .44 bullets and .50 bullets indicate impacted bullets fired from the warrior positions.

**Position Inventory:**

Note: The Global Position Satellite locations to the right of the artifact are Standard Military Grid Reference System positions

**Cavalry Position #1: closest position to gate**

**Group 1**

- CAV AA25 .45/70 pre-1877 casing, not battle related – 12 TYR 01837 81753
- CAV AA26 .45/70 pre-1877 casing, not battle related – 12 TYR 01838 81754

**Group 2**

- CAV AA46 .50/70 low crimp, Bar Anvil casing

**Group 3**

- WS 042 .50/70 high crimp, Benet casing - 12 TYR 01837 81768
- WS 043 .50/70 high crimp, Benet casing - 12 TYR 01837 81768
- WS 058 .50/70 high crimp, Benet casing - 12 TYR 01837 81768

**Group 4**

WS 046 .50/70 low crimp, Benet casing - 12 TYR 01837 81773  
WS 047 .50/70 high crimp, Benet casing - 12 TYR 01838 81771

**Group 5**

WS 044 .50/70 high crimp, Benet casing - 12 TYR 01848 81774  
WS 045 .50/70 low crimp, Bar Anvil casing - 12 TYR 01839 81779  
WS 048 .50/70 high crimp, Benet casing - 12 TYR 01836 81775  
WS 049 .50/70 low crimp, Bar Anvil casing - 12 TYR 01845 81776  
WS 050 .50/70 low crimp, Bar Anvil casing - 12 TYR 01845 81776  
WS 051 .50/70 high crimp, Benet casing - 12 TYR 01846 81775  
WS 052 .50/70 high crimp, Benet casing - 12 TYR 01845 81776

**Group 6**

WS 053 .50/70 high crimp, Benet casing

**Cavalry Position # 2: Right of position # 1**

**Group 7**

CAV AA28 .50/70 cartridge casing, (rim only)

**Cavalry Position # 3: farthest left portion of skirmish line (next to gate)**

**Group 8**

WS 036 .50/70 low crimp, Bar Anvil casing  
WS 038 .50/70 low crimp, Bar Anvil casing  
WS 039 .50/70 low crimp, Bar Anvil casing

**Cavalry Position # 4: Monument Position**

**Group 9**

WS 004 .50/70 high crimp, Benet casing - 12 TYR 01856 81831  
WS 005 .50/70 high crimp, Benet casing  
WS 006 .50/70 high crimp, Benet casing - 12 TYR 01859 81829  
WS 012 .50/70 high crimp, Benet casing - 12 TYR 01861 81830  
WS 013 .50/70 high crimp, Benet casing - 12 TYR 01861 81830  
WS 014 .50/70 high crimp, Benet casing - 12 TYR 01861 81830  
WS 015 .50/70 high crimp, Benet casing - 12 TYR 01863 81828  
WS 016 .50/70 high crimp, Benet casing - 12 TYR 01861 81833  
WS 017 .50/70 high crimp, Benet casing - 12 TYR 01859 81828  
WS 019 .50/70 low crimp, Bar Anvil casing - 12 TYR 01859 81831  
WS 020 .50/70 low crimp, Bar Anvil casing -12 TYR 01859 81831

WS 021	.50/70 low crimp, Bar Anvil casing	-12 TYR 01859 81830
WS 022	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01860 81828
WS 023	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01863 81832
WS 025	.50/70 Martin primed casing	- 12 TYR 01863 81832
WSBU 026	.50 cal. 3L3G Govt. style bullet	- 12 TYR 01860 81831
WS 026	.50/70 high crimp, Benet casing	- 12 TYR 01863 81827
WS 027	.50/70 high crimp, Benet casing	- 12 TYR 01858 81827
WS 028	.50/70 low crimp, dud, Bar Anvil casing	- 12 TYR 01861 81829
WS 030	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01861 81830
WS 031	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01861 81830
WS 032	.50/70 high crimp, Benet casing	- 12 TYR 01862 81831
WS 034	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01862 81829
WS 054	.50/70 low crimp, Bar Anvil casing	
WS 055	.50/70 low crimp, Bar Anvil casing	
WS 056	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01862 81829
WS 057	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01861 81831
WS 059	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01860 81831
WS 060	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01860 81828

**Group 10**

WS 010	.50/70 high crimp, Benet casing	- 12 TYR 01857 81826
WS 011	.50/70 high crimp, Benet casing	- 12 TYR 01859 81826
WS 040	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01858 81826

**Group 11**

WS 007	.50/70 high crimp, Benet casing	- 12 TYR 01856 81822
WS 008	.50/70 high crimp, Benet casing	- 12 TYR 01857 81823
WS 009	.50/70 high crimp, Benet casing	- 12 TYR 01855 81824
WS 018	.50/70 high crimp, Benet casing	- 12 TYR 01855 81824
WS 035	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01857 81821
WS 037	.50/70 high crimp, Benet casing	- 12 TYR 01855 81826

**Cavalry Position # 5: Right side of Monument Position**

**Group 12**

WS002	.50/70 high crimp, Benet casing	- 12 TYR 01860 81839
WS003	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01861 81837

**Cavalry Position # 6: Right side and South of Position # 5**

**Group 13**

AA 079	.50/70 High Crimp, Benet primed casing	- 12 TYR 01869 81841
--------	--	----------------------

AA 080	.50/70 High Crimp, Benet primed casing	- 12 TYR 01869 81841
AA 081	.50/70 High Crimp, Benet primed casing	- 12 TYR 01869 81841
AA 082	.50/70 High Crimp, Benet primed casing	- 12 TYR 01869 81841
AA 083	.50/70 High Crimp, Benet primed casing	- 12 TYR 01869 81841
AA 084	.50/70 High Crimp, Benet primed casing	- 12 TYR 01869 81841
AA 085	.50/70 High Crimp, Benet primed casing	- 12 TYR 01869 81841
AA 086	.50/70 Low Crimp, Benet primed casing	- 12 TYR 01869 81841
AA 087	.50/70 unfired bullet, Benet primed)	- 12 TYR 01867 81636
CAV 101	.50/70 high crimp Benet casing	- 12 TYR 01867 81834
CAV 102	.50/70 low crimp, Bar Anvil casing	- 12 TYR 01867 81834
CAV 103	.50/70 high crimp, Benet casing	- 12 TYR 01868 81834
CAV 104	.50/70 high crimp, Benet casing	- 12 TYR 01868 81834

**Cavalry Position # 7: Right side of Position # 6**

**Group 14**

AA 029	.50/70, Low Crimp, Bar Anvil casing	- 12 TYR 01864 81844
AA 030	.50/70, Low Crimp, Bar Anvil casing	- 12 TYR 01864 81844
AA 031	.50/70 High Crimp, Benet casing	- 12 TYR 01864 81844

**Cavalry Position # 8: Right side of Position # 7**

**Group 15**

WS 001	.50/70 high crimp, Benet casing	- 12 TYR 01864 81841
--------	---------------------------------	----------------------

**Cavalry Position # 9 Right side of Position # 8 (Near cluster of trees)**

**Group 16**

AA 027	220 grain .44 cal. bullet fired in a Henry / model 1866 Winchester	- 12 TYR 01867 81868
WS AA017	.50/70 Low Crimp, Bar Anvil casing	- 12 TYR 01867 81868
WS 033	.50/70 High crimp, Bar Anvil casing	- 12 TYR 01866 81864
WS AA035	.50/70 Low Crimp, Bar Anvil casing	- 12 TYR 01870 81863

**Cavalry Position # 10 Right side of Position # 7 (across ditch, near house)**

**Group 17**

CAV 200	.50/70 High Crimp, Benet primed casing	- 12 TYR 01904 81935
---------	--	----------------------



**Cartridge casings found in the Cavalry positions (These cartridge casings were not surveyed)**

CAV 062 .45/70 casing, fired in a model 1873 Springfield  
CAV 063 .50/70 low crimp, Bar Anvil casing  
CAV 201 .50/70 high crimp, Benet primed casing  
CAV 202 .50/70 low crimp, Bar Anvil casing  
CAV 211 .50/70 low crimp, Bar Anvil casing  
CAV 212 .50/70 high crimp, Benet primed casing  
CAV 213 .50/70 low crimp, Bar Anvil casing  
CAV 214 .50/70 high crimp, Benet primed casing  
CAV 215 .50/70 high crimp, Benet casing  
CAV 216 .50/70 high crimp, Benet casing  
CAV 217 .50/70 high crimp, Benet casing  
CAV 218 .50/70 low crimp, Bar Anvil casing  
CAV 219 .50/70 high crimp, Benet casing  
CAV 220 .50/70 low crimp, Bar Anvil casing  
SCAA 032 .50/70 high crimp, Benet casing  
WS 024 .50/70 low crimp, Bar Anvil casing  
WS 041 200 grain .44 cal. bullet, 6L6G, bottom cavity  
SCAA 095 .50/70 low crimp, Bar Anvil casing  
WSBU 001 .44 cal. (pointed) bullet, 6L6G, left twist, probably fired by a Colt revolver

Addendum: The following casing was found in the Cavalry Position near a cluster of .50/70 cartridge casings.

24YL1129 017 .44 cartridge casing, 2 sets of firing pin marks, fired in a Henry or model 1866 Winchester - 12 TYR 01851 81755

**Methodology:**

As was the case in the Infantry portion of the skirmish line, locating the artifacts in this position was difficult. The artifacts again were located at depths ranging from 6 to over 20 inches. The reason for the depths of the artifacts in this portion of the battlefield can again be blamed on the nature of the Yellowstone River. This region lies within the flood plane of the river and has been subject to flooding since 1872.

Metal detectors were used to locate the artifact evidence of this portion of the skirmish



line, however, the artifacts in this area were as difficult to uncover as those found in the Infantry portion of the skirmish line.

The conditions of the soil remained the key factor in locating artifacts. The soil composition and amount of moisture had a significant impact on locating artifacts at deep depths.

As in the Infantry portion of the skirmish line, the obvious locations were initially investigated. These areas included the rear slopes of berms or any areas that provided natural cover and concealment.

When one cartridge casing group was found, the area would be thoroughly investigated. The same consistent patterns were discovered that are discussed in the Infantry section of the skirmish line. Adjacent groups of cartridge casings were found to be separated by no more than 5 to 20 feet in most cases. The discovery of these groups of casings soon led to the reconstruction of this portion of the skirmish line.

## **Captain Ball's skirmish line and the Avenue of Approach**

(Note: This section of the battlefield was not discovered until November 10<sup>th</sup> 2001, following the production of the original Baker Battle maps produced by Mel Walker. As a result the Principal Investigators collaborated with Tim Urbaniak, A professor at Montana State University and Montana Archeological Society Board Member, to produce subsequent maps of Captain Ball's skirmish line and the Avenue of Approach to the skirmish Line, both important portions of Baker's Battlefield.)

**Physical Description of position:** The area referred to as Captain Ball's Skirmish Line lies approximately 100 yards north of Indian Position # 1 (actually the Avenue of Approach used by Captain Ball in his movement to the Skirmish Line). The terrain at the Skirmish Line can be described as natural berm that stretches for approximately 100 feet and a longer berm (north of the previously described one) that stretches for nearly 250 feet northwest of the shorter berm. These natural berms provided cover and concealment for those troops who occupied this position.

The Avenue of Approach used by Captain Ball is the area that lies south of Captain Ball's Skirmish Line. This area includes a draw that leads up the slope of the bluffs to the west of Major Baker's Skirmish Line to the top of the ridge approximately 100 yards south of Captain Ball's Skirmish Line.

**Known weaponry used at position:** Sharps model 1868 Conversion Carbines were used by Company H, 2<sup>nd</sup> Cavalry, the unit that occupied this position during the battle.

**Ammunition found:** .50/70 Bar Anvil, .50/70 Benet cartridge casings were found in both the Avenue of Approach and Captain Ball's Skirmish Line. Impacted .44 and .50 caliber bullets were also found to be impacted within these areas.

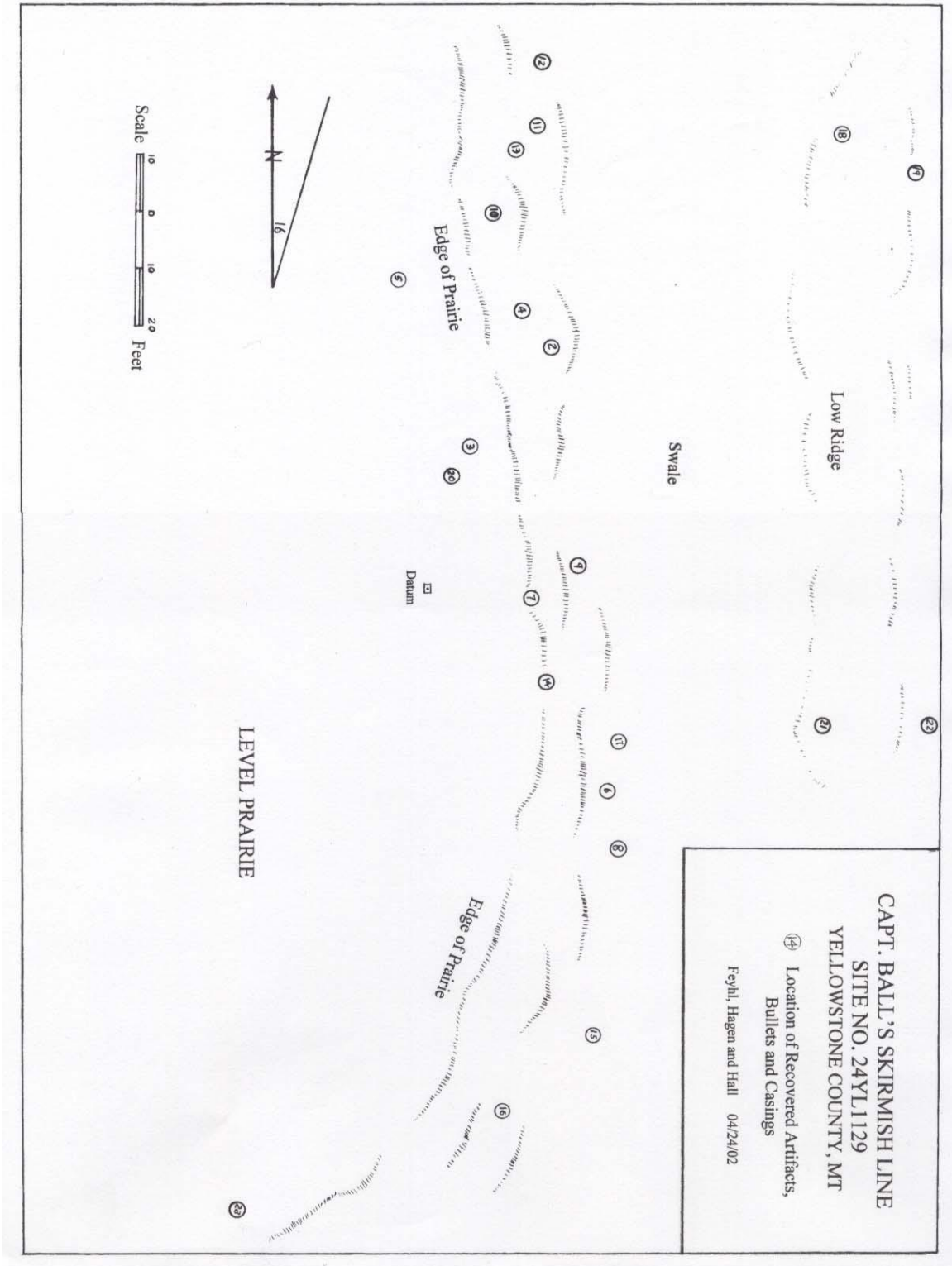
**Range to enemy positions:** This position is approximately 335 yards from Indian position # 2, and 420 yards from Indian position # 3. The other known Indian positions are not seen from this skirmish line. It is likely that these soldiers could have fired upon positions that are now destroyed due to gravel operations to the east.

**Historic Reference:**

“Captain Ball, of the Second Cavalry, with his company dismounted, went out on the left, and drove the enemy from the bluffs in that direction. The Indian headquarters seemed to have been established upon a prominent bluff on the left of their line, from whence couriers were frequently dispatched. This point and other bluffs in its vicinity were densely crowded with Indians during the fight, and remained in their possession for several hours after daylight.”<sup>15</sup>

**Archeological evidence found at this position:** 11 Benet and 8 Bar Anvil cartridge Casings along with 3 .44 bullets and 1 .50 caliber bullet were found in Captain Ball’s Skirmish Line. 6 Benet and 3 Bar Anvil cartridge casings were found from the bottom to the top of the ridge facing Baker’s Battlefield, in the area known as the Avenue of Approach.

**Maps:**



**Photos:**



This photo shows the avenue of approach to Captain Ball's skirmish line.  
**Courtesy of Tim Urbaniak**



This photo shows the berm occupied by Company H, 2<sup>nd</sup> Cavalry during the fight on the Yellowstone. This view is looking west from the skirmish line.  
**Courtesy of David Eckroth**

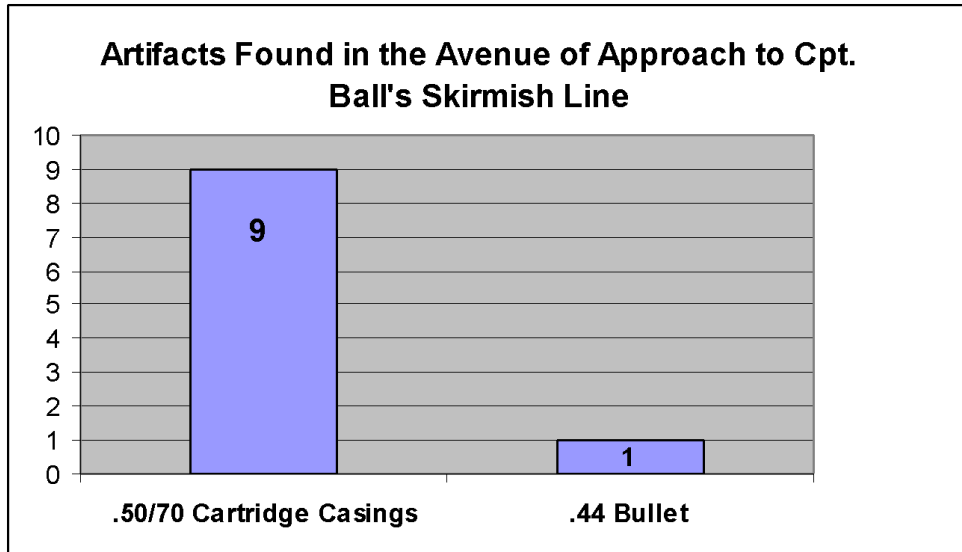


This photo shows a .50/70 cartridge casing found on the plateau just north of the berm occupied by Company H, 2<sup>nd</sup> Cavalry. Evidence such as this casing shows that Captain Ball's men advanced beyond the berm shown in the previous photo.

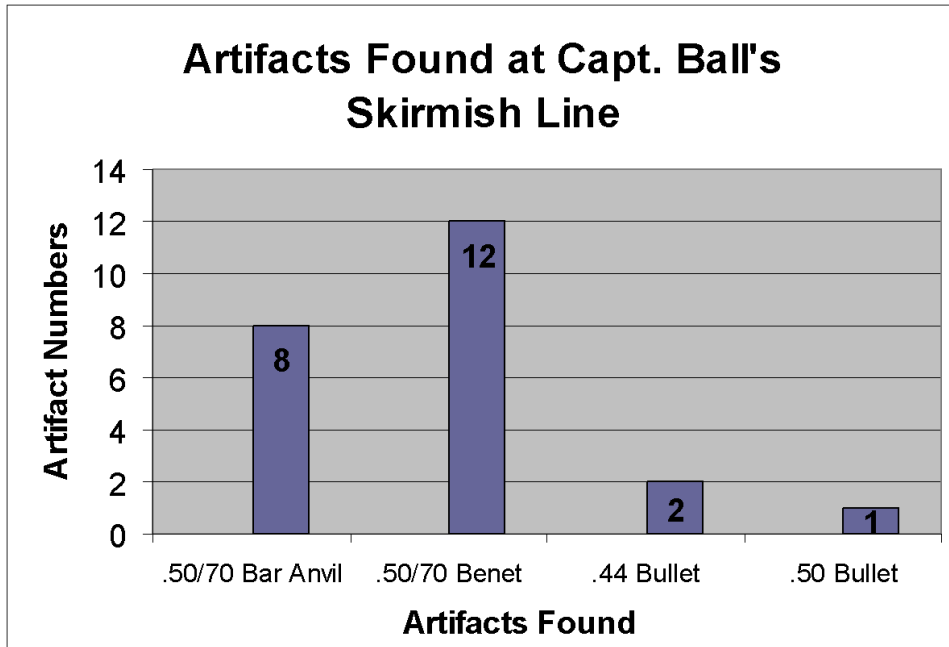
**Courtesy of David Eckroth**



**Graphs:**



This graph shows the 10 .50/70 cartridge casings and 1 .44 bullet found in the avenue of Approach to Captain Ball's skirmish Line. MT2CH001, MT2CH025, MT2CH026, MT2H027, MT2CH028, MT2CH029 and MT2CH030 were found in the 2002 survey. MTBBAA1E, MTBBAA5E and MTBB6E included in this graph were found in this area prior to the 2002 survey. These last three artifacts are also included in the graph for Indian Position # 1.



This graph shows the cartridge casings and bullets found at Captain

Ball's Skirmish Line.

**Avenue of Approach Inventory:**

The following artifacts were found on the East slope of the avenue of approach to Captain Ball's skirmish line that overlooks the main battlefield. This area overlaps the Indian Position # 1 on Baker Battle Map # 2. These artifacts were found following the surveys. Rock cairns and lead disks with punched identification numbers were placed at each location. GPS positions have also been recorded for future mapping and relocation.

- MT2CH001 .50/70 Bar Anvil case, fired in a Sharps carbine - 12TYR 01407E 81676N
- MT2CH025 .50/70 Benet casing, fired in a Sharps Carbine – 12TYR 01400E 81681N
- MT2CH026 .50/70 Benet casing, fired in a Sharps – 12TYR 01508E 81553N
- MT2CH027 .50/70 Benet casing, fired in a Sharps – 12TYR 01515E 81549N
- MT2CH028 Misfired .50/70 Bar Anvil complete bullet – 12TYR 01516E 81549N
- MT2CH029 .50/70 Benet casing, fired in a Sharps – 12TYR 01534E 81542N
- MT2CH030 .50/70 Bar Anvil casing, fired in a Sharps – 12TYR 0153E 81562N
- MTBB AA1 .50/70 High Crimp, Benet primed casing fired in a model 1868 or 1870 Springfield rifle
- MTBB AA500 .50/70 Low Crimp, Bar Anvil casing fired in a Sharps carbine
- MTBB AA6 .50/70 High Crimp, Benet primed casing fired in a Sharps carbine
- MT2CH024 .44 bullet, smashed – 12TYR 01400E 81681N Alt. 3136 ft.

**Captain Ball's Skirmish Line Inventory:**

The following artifacts were found within the area known as Captain Ball's skirmish line.

MT2CH018, MT2CH019, were found behind a berm just south of the skirmish line.

MT2CH021 and MT2CH022 were found on top of the berm just south of the skirmish line. GPS positions have also been recorded for future mapping and relocation.

- MT2CH002 .50/70 Benet cartridge case, fired in a Sharps carbine - 12TYR 01321E 81649N Alt 3137 ft.
- MT2CH003 .50/70 Bar Anvil cartridge case, fired in a Sharps carbine - 12TYR 01329E 81637N Alt 3137 ft.
- MT2CH004 .50/70 Bar Anvil cartridge case, fired in a Sharps carbine - 12TYR



01325E 81651N Alt 3133 ft.

MT2CH005 .50/70 Benet cartridge case, fired in a Sharps carbine - 12TYR 01328E  
81651N Alt 3135 ft.

MT2CH006 .50/70 Bar Anvil cartridge case, fired in a Sharps carbine - 12TYR 01330E  
81627N Alt 3131 ft

MT2CH007 .50/70 Benet cartridge case, fired in a Sharps carbine - 12TYR 01326E  
81644N Alt 3135 ft.

MT2CH008 .50/70 Benet cartridge case, fired in a Sharps carbine - 12TYR 01332E  
81605N Alt 3134 ft.

MT2CH009 .50/70 Bar Anvil cartridge case, fired in a Sharps carbine - 12TYR 01331E  
81636N Alt. 3138 ft.

MT2CH010 .50/70 Benet cartridge case, fired in a Sharps carbine - 12TYR 01324E  
81654N Alt. 3131 ft.

MT2CH011 .50/70 Bar Anvil cartridge case, fired in a Sharps carbine - 12TYR 01325E  
81659N Alt. 3121 ft.

MT2CH012 .50/70 Benet cartridge case, fired in a Sharps carbine - 12TYR 01326E  
81662N Alt. 3135 ft.

MT2CH013 .50/70 Benet cartridge case, fired in a Springfield rifle - 12TYR 01325E  
81658N Alt. 3135 ft.

MT2CH014 .50/70 Bar Anvil cartridge case, fired in a Sharps carbine - 12TYR  
01332E 81632N Alt. 3135 ft.

MT2CH015 .50/70 Benet cartridge case, fired in a Sharps carbine - Alt 3130 ft.  
12TYR 01341E 81617N Alt. 3135 ft.

MT2CH016 .50/70 Bar Anvil cartridge case, fired in a Sharps carbine - 12TYR 01336E  
81617N Alt. 3135 ft.

MT2CH017 .50 bullet, Smashed, 12TYR 01392E 8145N Alt. 3135 ft.

MT2CH018 .50/70 Benet cartridge case, fired in a Sharps Carbine – 12TYR 01405E  
81463N Alt. 3135 ft.

MT2CH019 .50/70 Benet cartridge case, fired in a Sharps Carbine – 12TYR 01543E  
81533N Alt. 3135 ft.

MT2CH020 .50/70 Bar Anvil cartridge case, fired in a Sharps Carbine - 12TYR 01400E  
81466N Alt. 3135 ft.

MT2CH021 .44 Bullet (Deformed) 12TYR 01351E 81631N Alt. 3135 ft.

MT2CH022 .44 Bullet (Deformed) 12TYR 01355E 81631N Alt. 3135 ft.

MT2CH023 .50/70 Bar Anvil cartridge case, fired in a Sharps Carbine – 12TYR  
01319E 81599N Alt. 3136 ft.

**Narrative:** On November 10, 2001, the terrain north and west of the Baker Battle site was visited to verify and document military activity in that region of the battlefield. Investigators using Fisher metal detectors initially located two .50/70 cartridge cases. Following these discoveries the investigators decided to see if a pattern of artifacts

existed. The casings were found on a reverse slope of terrain close to the private road leading to Mr. William Michael's property. After searching that slope and the flat terrain above and below the slope, .50/70 cartridge cases were discovered, scattered along this area for approximately 150 feet. The artifacts were located either alone or in small groups approximately 10 to 15 feet from adjoining artifacts along this slope. These artifacts are convincing evidence of Captain Ball's skirmish line, occupied in the later stages of Baker's Battle on the Yellowstone. During this fight, Company H, 2<sup>nd</sup> Cavalry used one or two avenues of approach to the discovered skirmish line. The scattered .50/70 cartridge casings found indicate a skirmish line following an east-west ridge, along with a moderate slope that affords adequate cover for the soldiers. The .50/70 cartridge cases are consistent with the ammunition available for Captain Ball's Company H, during the time of the battle on the Yellowstone, August 14, 1872. A few bullets were found in the vicinity of the skirmish line, which indicate that these men were under fire (at least light return fire). No unfired bullets of the .50/70 design have been found which indicate that Company H, 2<sup>nd</sup> Cavalry was not hotly pressed by the Sioux warriors, while at this skirmish line. One cartridge case was found on the avenue of approach to the skirmish line (MT2CH001), while the rest of the cartridge cases were found on or in front of the skirmish line. No casings of designs other than .50/70 have been found in the skirmish line, which indicate a clear link to a specific historical event, namely Baker's Battle on the Yellowstone.

On November 17, 2001 investigators and volunteers visited this site. A Lowrance Global Map 100 GPS was incorporated to determine the positions of the earlier found .50/70's. NAD 27 (North American Data 1927) was used for the Datum due to its use on

topographic maps. STD MGRS (Standard Military Grid Reference System) was used for artifact locations. The team, using the GPS recorded the locations of all the known artifacts in this position and searched for evidence of the extension of the line to the left and right sides. No evidence was found on the left or right. The area directly in front (Northeast) of the skirmish line was also investigated. This area produced a .44 bullet of unknown design, impacted into a ballooned shape. This artifact design is consistent with .44 bullets found at the Baker Battle Site in the soldier positions and along the front (southern slopes) of the Major Indian Positions. The terrain to the south of the skirmish line also would also afford appropriate cover if used by the soldiers. It was investigated and produced two .50/70 casings (MT2CH018 and MT2CH019). The rest of this slope was investigated and two .44 caliber bullets (MTCH021 and MTCH022) were found.

On September 14 and September 22, 2002, Investigators and volunteers revisited this area of the battlefield in order to see if the avenue of approach to the Skirmish Line could be extended from the top of the bluff to the bottom. The investigators hoped to find evidence that this area of the battlefield was occupied by a portion of Captain Ball's troopers, positioned here as flankers. The top of the hill overlooking the battlefield and the ridge of the hill leading down to the slough and timbers was explored. This search produced five .50/70 cartridge casings (MTCH026, MTCH027, MTCH028, MTCH029 and MTCH030). One of these, a misfired .50/70 casing (MTCH028) was found near the crest of the hill while the other three were found, approximately 20 feet from each other in a line along the ridge overlooking the battlefield (protecting Captain Ball's avenue of approach to the skirmish line). This new discovery is solid evidence that Captain Ball

sent at least a small portion of his company (approximately 10 men) to cover his right flank while approximately 20 others occupied the skirmish line to the north of Positions #1.

## **Major Baker's Campsite**

**Physical Description of position:** According to Major Barlow's report,

Our camp is exceedingly pleasant and quite picturesque. It is entirely surrounded by trees, among which is a rank growth of willow and rose-bushes. The blossoms of the latter have fallen some time since leaving almost as beautiful a display of bright red berries in their stead. ... Close to camp rushes the river in a perfect torrent, washing away the soft alluvial bottom with great rapidity, while evidence of its former power is seen in the huge trees that lie stranded on the small islands in its midst. The stream is here about two hundred yards wide. The opposite shore is a bold, rocky bluff, perhaps eighty feet in height, worn by the elements into various shapes, here and there resembling battlements of the feudal ages.<sup>16</sup>

**Known weaponry used at position:** Artifact remains indicate that Spencer, Springfield model 1866 and / or 1868 rifle, Henry rifles and Sharps conversion carbines were used in the areas known as Major Baker's campsite.

**Ammunition found:** The following cartridge casings were found within the boundaries of this area: .50/70 Bar Anvil cartridge casings, .50/70 Benet cartridge casings, .50/70 Martin Primed cartridge casings, .56/50 Rimfire cartridge casings, and .44 rimfire cartridge casings.

**Range to enemy positions:** This portion of the battlefield is at extreme long range from Indian targets in the bluffs. The timbers and brush that encircle the slough

would interfere with rifle fire directed toward the bluffs leaving any effective rifle fire as unlikely from those positions. However, there was clear evidence of rifle fire from these areas presumably at targets within the slough and timber portion of the battlefield early on in the fight.

**Historic Reference:**

"... Col. Baker established camp on the river bottom, in high grass, facing the buttes and foothills. With the Yellowstone at his back and 200 yards in front partially surrounded by a semicircle of bushes and cottonwood trees, a slough with considerable water therein."<sup>17</sup>

**Archeological evidence found at this position:**

The area that comprises Major Baker's Campsite was occupied by 187 soldiers of the 2<sup>nd</sup> Cavalry, and 189 men of the 7<sup>th</sup> Infantry. 50 civilians, 65 wagons and ambulances, and the accompanying horses, mules and cattle also were encamped in this area. The area known as Major Baker's campsite currently is used for farming activities and has been leveled in previous years. Random metal detecting in this area of the battlefield provided insight into the activities of the men who occupied this area of the battlefield in the early stages of the fight.

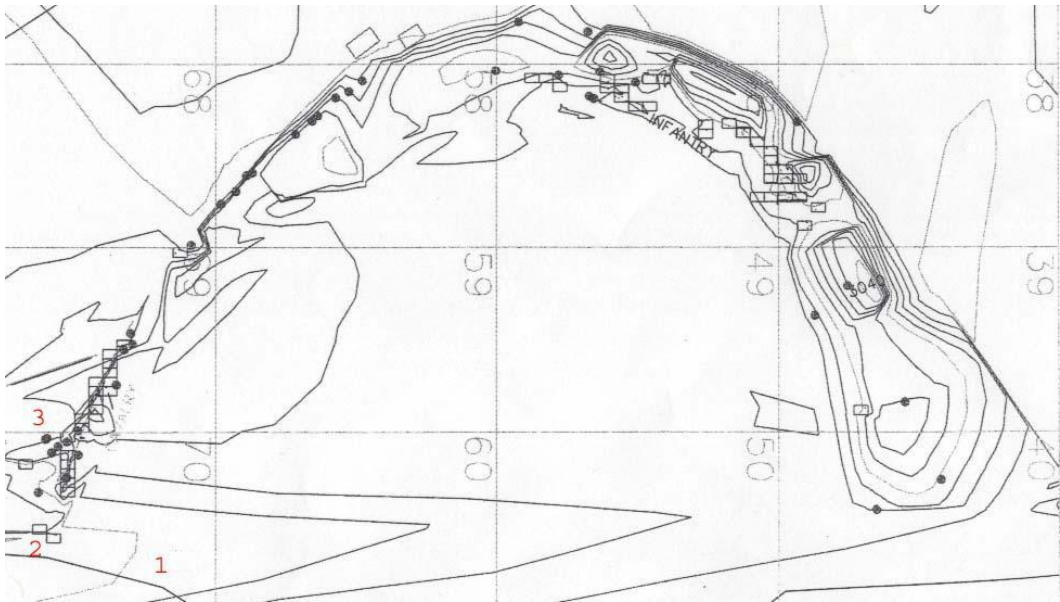
In the area south of the Cavalry portion of the Skirmish Line in the slough and timbers, cartridge casings were found which match those found in the skirmish line. 10 of the casings were .50/70's, both Benet and Bar Anvil style. 6 cartridge casings were .56/50 Spencer design. A .44 rimfire casing was also found in this are of the battlefield. In

addition to the above cartridge casings, 3 .44 bullets, 2 .50 bullets, 1 .36 round ball, 1 .50 round ball and 1 .54 round ball were found impacted in this area of the battlefield. A few non-ammunition artifacts were found within this area as well. 1 Rivet, 1 Crucifix, 1 metallic bead, 2 pocket knife sections, a medium brass harness rivet, a medium brass rivet washer, a brass trunk / drawer side handle mounting plate and a watering bit were also found in this area of the battlefield. This area of the battlefield is labeled on the map accompanying this section as area 1.

In the area of the battlefield between Tracy's Landing and the slough and timbers, 2 .50/70 cartridge casings and 1 .45/70 Pre-1877 cartridge casing were found. This position is labeled on the map accompanying this section as area 2.

The area approximately 15 feet north of the soldier headstone showed evidence of camp activity. 2 Uniform buttons, 1 Tent Stake and 1 .45 Schofield cartridge casing were unearthed. These artifacts may be battle-related, however, the .45 Schofield casing is clearly indicative of the ammunition used following 1872.

**Maps:**



This map portrays Major Baker's Campsite (1), cartridge casings found on the far right border of the Tracy's Landing Area (2), and Artifacts found in the cornfield north of Sgt. McClarren's monument (3).

**Courtesy of Mel Walker**

**Photos:**

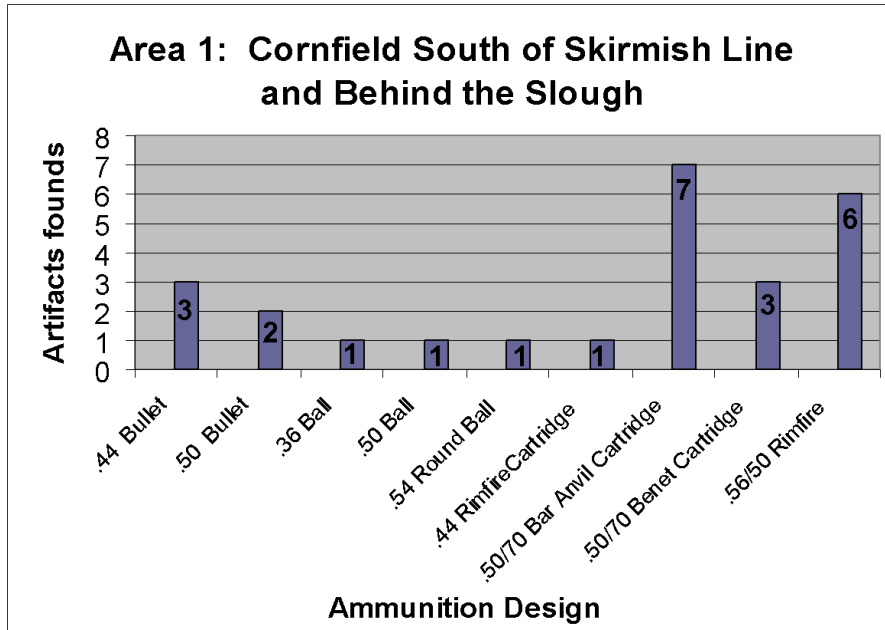


This view is looking west toward the slough which surrounds the campsite which occupied the flat terrain in the foregrounds.

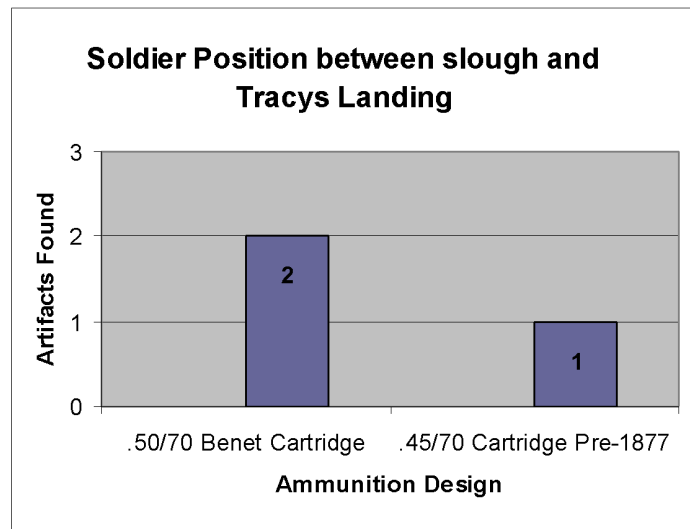
**Courtesy of David Eckroth**



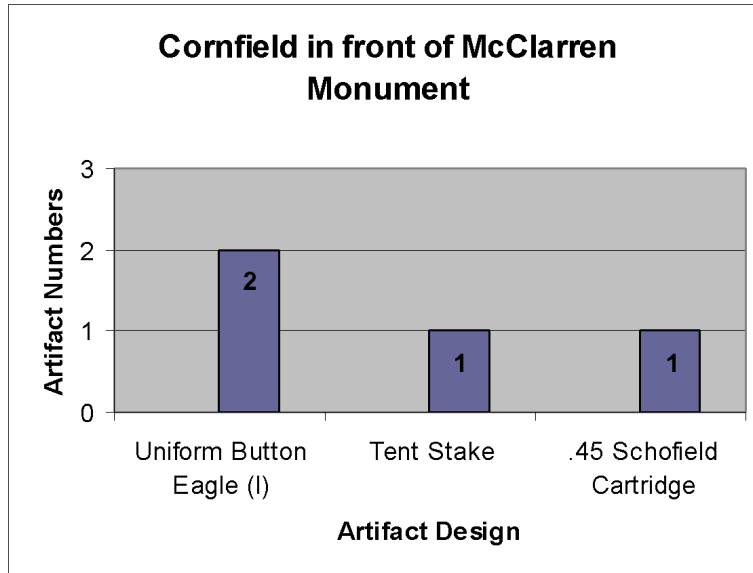
**Graphs:**



The artifacts listed in this graph are consistent with the time of the battle. The .44, 50, .36 ball, .50 ball and .54 ball most likely originate from warrior fire. The .36 ball is of unknown origin. The .44 rim fire casing is also of unknown origin. The .50/70 and .56/50 casings are consistent with the ammunition used by the soldiers and the civilians who accompanied Major Baker’s expedition.



The .50/70 cartridges are consistent with the ammunition used by Major Baker’s soldiers. The .45/70 casings post date the battle. The location of the .50/70 cartridges found may indicate the far left (westerly) portion of the skirmish line.



The artifacts listed in this graph indicate military occupation post dating the fight. The .45 Schofield cartridge was not in issue until after 1872. The tent stakes and uniform buttons could be battle related, used in later military expeditions or Indian use (warrior clothed in a military coat).

**Position Inventory:**

**Area 1: Major Baker's Campsite (2<sup>nd</sup> Cavalry and 7<sup>th</sup> Infantry):** Artifacts found in the cornfield south of the skirmish line, and behind the slough, timbers.

- T metallic bead (reddish tint)
- SC A14 220 grain .44 bullet, 6L6G, right twist, fired in a Henry or model 1866 Winchester
- SC A16 .50/70 Shell casing - low crimp, Bar Anvil, fired in an 1868 Sharps
- SC A17 .50/70 casing, high crimp, Benet Cup, appears to be fired in a Sharps model 1868
- SC A19/AA8 .56/50 Spencer casing - S.A.W. fired in a Spencer carbine or rifle
- SC AA7 450 grain .50 cal. Govt. bullet, 3L3G, Springfield rifling
- SC AA20-1 pocket knife section
- SC AA21 pocket knife section
- SC AA22 rivet
- SC AA23 crucifix
- SC AA24 450 grain .50 cal. bullet, 3L3G, Springfield rifling
- SC AA47 .50/70 casing, low crimp, Bar Anvil
- SC AA48 .50/70 casing, high crimp, badly damaged
- SC AA66 .54 cal. round ball, no distinguishing characteristics
- SC AA81-1/2 .56/50 casing, S.A.W., fired in a Spencer carbine or rifle
- SC AA82 .50/70 casing, high crimp, Benet primed, extractor mark present, fired in an 1868 Springfield

- SC AA94 .56/50 rimfire, S.A.W., fired in a Spencer carbine or rifle
- SC 003 .56/50 S.A.W. (Sage Arms Works) unfired bullet
- SC 004 .50/70 low crimp, Bar Anvil casing
- SC 005 .50 cal. musket ball, fired, rifling present
- SC 006 .56/50 unfired bullet, 3 grease grooves present
- SC 007 .36 cal. pistol ball, rifling, left twist
- SC 008 215 grain .44 cal. bullet, 5L5G, fired in Henry or model 1866 Winchester
- SC 009 215 grain .44 cal. bullet, 5L5G, fired in a Henry or model 1866 Winchester
- SC 009A .50/70 low crimp, fired in 2<sup>nd</sup> model 1866 Springfield, low half of casing.
- SC 011 .44 rimfire, "H" headstamp, fired in a Henry or model 1866 Winchester
- SC 012 .56/50 rimfire, S.A.W., fired in a Spencer
- SC 013 medium brass harness rivet
- SC 014 medium brass rivet washer
- SC 015 brass trunk / drawer side handle mounting plate
- SC 033 watering bit
- SC 102 .50/70 unfired bullet, Bar Anvil
- NSC 001 .50/70 low crimp, Bar Anvil casing
- NSC 002 .50/70 low crimp, Bar Anvil casing

**Area 2: Soldier Position between slough and Camp Site: (Tracy's Landing and camp site, west of the slough and timbers)**

- SCAA40 .50/70 high crimp, Benet casing
- SCAA51 .45/70 pre-1877 casing
- SCAA59 .50/70 high crimp, Benet casing

**Area 3: Cornfield in front of Soldier Marker: (This position is approximately 15 ft. north of the soldier headstone)**

- SCAA203 uniform button – Eagle (I) - Extra Quality
- SCAA204 uniform button – Eagle (I) - Fine Gold Plate Stamp
- SCAA205 tent stake
- SCAA096 .45 cal. casing - Schofield design

### **Indian Headquarters**

The area referred to by Major Barlow in his report from the Expedition has not been surveyed due to the fact that there currently is a private residence located there. The decision not to survey this area was made out of respect for the landowners wishes.

### **Central Slough / Timbers (Civilian Portion)**

The central portion of the slough, stated by Lt. Bradley, 7<sup>th</sup> Infantry historian (who interviewed participants of this fight) has not been surveyed due to major land use changes, i.e. two houses, two outbuildings, a parking area, and a bridge that crosses that portion of the slough.

## Sources relevant to artifact areas

### Indian Position # 1

1. Letter from the Secretary of War, 42<sup>nd</sup> Congress 3<sup>d</sup> Session Ex. Doc. No. 16, transmitting *The Report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.* p.7

### Indian Position # 2

2. Letter from the Secretary of War, 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16, transmitting *The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road.*
3. Ibid.

### Indian Position # 3

See source for Indian Position # 2

### Indian Position # 4

4. See source for Indian Position # 2
5. Montana Newspaper Association Inserts, *Judith Basin County Press* July 13, 1936

### Indian Position # 5

See source for Indian Position # 2

### Indian Position # 6

See source for Indian Position # 2

### Indian Position # 7

No recorded historical reference to this position.

### Infantry Positions

6. Inspection Report of Fort Shaw, 6/23/73. *Records of the Office of the Inspector General, 1871-1872* National Archives Record Group 159 File D-36-3, Entry 15.
7. Ibid.
8. F.W.M. Sergeant Co. G, 7<sup>th</sup> Infantry “An Indian Skirmish, A Thrilling Incident in the Survey of the Northern Pacific Railroad.” *National Tribune*: Washington D.C. 8/11/1904 p. 7.

9. F.W.M. Sergeant Co. G, 7<sup>th</sup> Infantry “An Indian Skirmish A Thrilling Incident in the Survey of the Northern Pacific Railroad.” *National Tribune*: Washington D.C. 8/11/1904, p. 7.

10. Bradley, p. 61.

### **Cavalry Positions**

11. McAuley, p.94.

12. Ibid. p. 95.

13. Letter from Colonel D.S. Stanley, Cmdg 22<sup>nd</sup> Infantry to Assistant Adjutant General, Department of Saint Paul, Minnesota, October 28<sup>th</sup>, 1872 *Letters sent, Records of Middle District of the Dept. of Dakota* National Archives Record Group 395 Entry 334.

14. McClelland, p. 3.

### **Captain Ball’s Skirmish Line and Avenue of Approach Position**

15. *Letter from the Secretary of War 42<sup>nd</sup> Congress 3<sup>rd</sup> Session Ex. Doc. No. 16 transmitting The report of Major J.W. Barlow, who accompanied a surveying party of the Northern Pacific Railroad, in relation to Indian interference with that road..*

### **Major Baker’s Camp Site**

16. Ibid.

17. F.W.M. Sergeant Co. G, 7<sup>th</sup> Infantry “An Indian Skirmish A Thrilling Incident in the Survey of the Northern Pacific Railroad.” *National Tribune*: Washington D.C. 8/11/1904, p. 7.

**i. Artifact Locations Surveyed at Baker's Battlefield on the Yellowstone (2000 - 2001)**

---

**Legend: Weapons / Ammunition**

Letters in Blue are U.S. Military artifacts

Letters in Red are Sioux, Northern Cheyenne and Arapahoe artifacts

Letter in Purple are artifacts from Tracy's Landing

Letters in Green are non-battle related artifacts

(DS) following an artifact description means Doug Scott has identified the artifact and weapon that fired this artifact

Notes:

**NBR:** Non-Battle Related artifact

**L and G (6L6G):** 6 lands and 6 grooves (distinctive markings on bullet created when bullet travels through the barrel of the pistol, rifle and carbine.

**HC:** High Crimp Casing

**LC:** Low Crimp Casing

091,	697.61043,	4182.66562,	3098.24285, F1	.44 Cal. Pointed Bullet,
6L6G, left twist, probably		fired by a Colt		
092,	1381.59168,	8447.94620,	3051.07813, SC AA40	.50/70 Casing HC
196,	2887.63809,	7456.13618,	3045.85669, INF 014	.50/70 Casing LC
197,	2887.63809,	7456.13618,	3045.85669, INF 014E	.50/70 Casing LC
199,	2887.64618,	7456.13115,	3045.87505, INF 014A	.50/70 Casing LC
200,	2887.64618,	7456.13115,	3045.87505, INF 014B	.50/70 Casing LC
201,	2887.64618,	7456.13115,	3045.87505, INF 014C	.50/70 Casing HC
202,	2887.64618,	7456.13115,	3045.87505, INF 014D	.50/70 Casing LC
204,	2887.64618,	7456.13115,	3045.87505, INF 014F	.50/70 Casing LC
205,	2889.69666,	7457.14768,	3045.75546, INF 013	.50/70 Casing LC
206,	2888.84481,	7455.20963,	3045.68298, INF 015	.50/70 Casing HC
207,	2888.84481,	7455.20963,	3045.68298, INF 15A	.50/70 Casing LC
209,	2895.54146,	7460.96927,	3046.20106, INF 016	.50/70 Casing HC
210,	2903.57072,	7462.82992,	3045.81171, INF 009	.50/70 Casing HC
212,	2904.70109,	7470.55089,	3047.26812, INF 007	.50/70 Casing HC
213,	2889.59586,	7473.81637,	3047.13103, INF 006	.50/70 Casing LC
214,	2918.94278,	7483.96856,	3047.17046, INF 003	.50/70 Casing LC
215,	2922.92819,	7491.51595,	3046.65633, INF 004	.50/70 Casing LC
216,	2914.52830,	7494.79271,	3046.14824, INF 002	.50/70 Casing LC
217,	2907.05473,	7491.84639,	3046.42873, INF 001	.50/70 Casing LC
218,	2970.74756,	7515.91757,	3045.52416, INF 005	.50/70 Casing LC
219,	2974.77942,	7511.96674,	3046.33452, INF 008	.50/70 Casing LC
221,	3213.55824,	7577.28579,	3045.36664, INF 067	.50/70 Casing LC
222,	3214.18443,	7582.03684,	3045.15655, INF 068	.50/70 Casing LC
223,	3216.48605,	7582.53395,	3045.10358, INF 069	.50/70 Casing LC
225,	3269.00914,	7612.48549,	3044.42973, INF 090	.50/70 Casing LC
226,	3269.44333,	7612.74811,	3044.31162, INF 091	.50/70 Casing LC
227,	3273.26992,	7616.17842,	3044.56168, INF 051	.50/70 Casing LC
228,	3274.70267,	7613.72903,	3044.32935, INF 085	.50/70 Casing LC
229,	3294.80255,	7649.42819,	3044.40912, INF 042	.50/70 Casing LC
230,	3296.98541,	7648.72002,	3044.87219,	ROCK BB AUG 14
231,	3295.73623,	7652.08734,	3044.53835, INF 043	.50/70 Casing LC
232,	3297.65822,	7653.68077,	3044.52533, INF 047	.50/70 Casing LC
233,	3295.34158,	7654.86779,	3044.77071, INF 044	.50/70 Casing LC
234,	3296.42946,	7655.69444,	3044.84832, INF 045	.50/70 Casing LC
235,	3298.92147,	7655.18126,	3044.74162, INF 046	.50/70 Casing HC

236,	3307.05222,	7668.36022,	3044.81992, INF 048	.44 Bullet, 5L5G,
215 Gr. (DS)				
237,	3308.51620,	7675.63121,	3045.05494, INF 049	.50/70 Casing HC
238,	3307.74190,	7676.42861,	3045.02196, INF 041	.50/70 Casing HC
239,	3299.74942,	7690.06238,	3044.88324, INF 020	.50/70 Casing LC
240,	3320.16281,	7684.80799,	3044.95098, INF 025	.50/70 LC Complete
bullet misfire				
241,	3322.56534,	7689.08689,	3045.42527, INF 021	.50/70 Casing HC
242,	3323.15145,	7684.59188,	3044.65881, INF 026	.50/70 Casing LC
unfired bullet				
244,	3329.87549,	7691.58126,	3044.62844, INF 022	.50/70 Casing LC
245,	3339.34460,	7689.48813,	3044.97834, INF 011	.50/70 Casing HC
246,	3333.98283,	7695.32625,	3044.63010, INF 024	.50/70 Casing LC
247,	3334.42333,	7696.77989,	3044.98297, INF 023	.50/70 Casing LC
248,	3334.03490,	7724.87608,	3045.22217, INF 053	.50/70 Casing LC
249,	3339.17841,	7726.53015,	3045.13689, INF 052	.50/70 Casing LC
250,	3368.48816,	7793.84154,	3045.57376, INF 092	.50/70 Casing LC
251,	3370.22045,	7793.65145,	3045.35136, INF 093	.50/70 Casing HC
252,	3372.04426,	7807.62884,	3044.86483, INF 095	.50/70 Casing LC
253,	3372.55431,	7809.99363,	3045.05640, INF 094	.50/70 Casing HC
397,	1713.60946,	8093.96082,	3048.67259, CAV W5AA35	.50/70 Casing LC
398,	1709.70512,	8087.43805,	3049.06874, CAV2 27	.44 Bullet, 5L5G,
215 Gr.				
399,	1707.47845,	8085.74613,	3049.51666, CAVW5 AA17	.50/70 Casing LC
405,	1678.62887,	8141.21010,	3048.58465, WS 001	.50/70 Casing HC
407,	1678.46208,	8161.47963,	3046.33815, CAV2 AA 31	.50/70 Casing HC
408,	1679.44895,	8161.39030,	3046.27409, CAV2 AA 29	.50/70 Casing LC
409,	1680.31349,	8161.72022,	3046.33225, CAV2 AA 30	.50/70 Casing LC
410,	1668.84075,	8165.74487,	3047.49176, WS 002	.50/70 Casing HC
411,	1667.25745,	8172.98917,	3047.63653, WS 003	.50/70 Casing LC
412,	1678.74072,	8184.80018,	3046.07776, CAV2 087	.50/70 Unfired
bullet				
413,	1677.61912,	8184.89635,	3046.16550, CAV2 081 and CAV 082 two	
.50/70				
Casings, both are HC				
414,	1677.40522,	8184.81023,	3046.13765, CAV 085 and CAV 086 two	
.50/70				
Casings, 085 is HC and 086 is LC				
415,	1676.07875,	8184.99119,	3046.13070, CAV2 AA79	.50/70 Casing HC
416,	1677.25170,	8184.96719,	3046.12562, CAV2 083 and CAV2 084 two	
.50/70 Casings, both are HC				
417,	1677.15120,	8185.15873,	3046.03579, CAV2 080	.50/70 Casing HC
418,	1677.11263,	8185.71193,	3046.30918, CAV 104	.50/70 Casing HC
419,	1677.19493,	8186.01228,	3046.17265, CAV 103	.50/70 Casing HC
420,	1677.06273,	8186.37548,	3046.48781, CAV 102	.50/70 Casing LC
421,	1677.58063,	8186.56850,	3046.59646, CAV 101	.50/70 Casing HC
423,	1656.49649,	8185.75822,	3048.94664, WS 005	.50/70 Casing HC
424,	1657.08917,	8189.21716,	3048.57884, WS 004	.50/70 Casing HC
425,	1660.30545,	8190.48499,	3047.62820, WS 026	.50 Bullet 3L3G,
450				
Gr.				
426,	1655.97792,	8193.11493,	3048.55596, WS 006	.50/70 Casing HC
430,	1657.24293,	8195.17939,	3048.44765, WS 029)	.50/70 Casing HC
431,	1656.54593,	8196.06988,	3048.51560, WS 027	.50/70 Casing HC
432,	1657.34980,	8196.31772,	3048.25381, WS 028	.50/70 complete
bullet LC misfire				
433,	1657.05598,	8195.88469,	3048.66507, STONE BBF	
434,	1659.14049,	8194.98000,	3047.56486, WS 059	.50/70 Casing HC
435,	1657.37391,	8197.58933,	3048.10351, WS 060	.50/70 Casing LC
437,	1653.14993,	8197.40281,	3049.23517, S HEADSTONE	
438,	1654.55244,	8199.95728,	3048.40983, WS 009	.50/70 Casing HC
439,	1653.93546,	8201.75928,	3048.21501, WS 007	.50/70 Casing HC
440,	1651.89246,	8202.78101,	3048.32403, WS 008	.50/70 Casing HC
443,	1656.12972,	8203.11300,	3047.47485, WS 010	.50/70 Casing HC
444,	1658.83042,	8204.95126,	3047.09528, WS 011	.50/70 Casing HC
471,	1568.06383,	8293.95756,	3049.12048, CAV2 AA28	.50/70 Casing HC
479,	1589.05295,	8371.63372,	3048.08774, WS 052	.50/70 Casing LC
480,	1588.30528,	8371.64929,	3048.10265, WS 050	.50/70 Casing LC
481,	1587.87888,	8370.81095,	3048.19599, WS 051	.50/70 Casing HC
482,	1587.72521,	8371.80080,	3048.16498, WS 049	.50/70 Casing LC
483,	1586.16163,	8372.51486,	3048.49022, CAV WS 044	.50/70 Casing HC



484,	1587.63928,	8374.10000,	3048.31301,CAV WS 045	.50/70 Casing LC
486,	1585.71670,	8382.99713,	3048.35938,CAV WS 046	.50/70 Casing LC
487,	1587.05740,	8384.98376,	3048.07796,CAV WS 047	.50/70 Casing HC
489,	1579.21492,	8379.32203,	3049.68743,CAV WS 048	.50/70 Casing HC
490,	1580.52434,	8397.66749,	3049.42247,CAV WS 042	.50/70 Casing HC
491,	1580.17897,	8397.65215,	3049.50351, CAV WS 043	.50/70 Casing HC
492,	1580.32709,	8398.23005,	3049.67182,CAV2 058	.50/70 Casing HC
496,	1582.22455,	8419.29764,	3047.78402,CAV WS AA46	.50/70 Casing LC
497,	1569.04387,	8437.88387,	3048.01427,CAV WS AA26	.45/70 Casing
Pre-				
77 (NBR)				
498,	1568.25497,	8438.27066,	3048.07691,CAV WS AA25	.45/70 Casing
Pre-				
77 (NBR)				
507,	1585.79881,	8340.23587,	3048.87851,WS 053	.50/70 Casing HC
508,	1646.71881,	8220.30444,	3047.78421,WS 057	.50/70 Casing LC
509,	1646.14477,	8219.03509,	3047.94529,WS 054	.50/70 Casing LC
510,	1645.27587,	8217.57604,	3048.20797,WS 055	.50/70 Casing LC
511,	1646.84725,	8217.86664,	3047.92708,WS 056	.50/70 Casing LC
512,	1652.32098,	8205.56148,	3048.09312,WS 038	.50/70 Casing LC
513,	1653.04050,	8203.90261,	3048.10894,WS 037	.50/70 Casing HC
514,	1652.29397,	8201.45538,	3048.66968,WS 035	.50/70 Casing LC
515,	1654.04634,	8205.59238,	3047.56589,WS 039	.50/70 Casing LC
516,	1655.35658,	8206.12629,	3047.31332,WS 036	.50/70 Casing LC
517,	1657.96502,	8203.65075,	3047.32060,WS 040	.50/70 Casing LC
518,	1658.56620,	8199.67183,	3047.62451,WS 022	.50/70 Casing LC
519,	1655.09285,	8199.32546,	3048.42276,WS 018	.50/70 Casing HC
520,	1658.51583,	8198.10256,	3047.82262,WS 017	.50/70 Casing HC
521,	1659.24299,	8196.69694,	3047.53314,WS 014	.50/70 Casing HC
522,	1659.61200,	8197.62741,	3047.54040,WS 012	.50/70 Casing HC
523,	1659.86214,	8197.36261,	3047.46091,WS 013	.50/70 Casing HC
524,	1660.63793,	8198.85528,	3047.05387,WS 016	.50/70 Casing HC
525,	1661.53179,	8197.89354,	3047.10246,WS 056	.50/70 Casing LC
526,	1661.26213,	8196.84435,	3047.18170,WS 057	.50/70 Casing LC
527,	1660.57277,	8196.04117,	3047.17758,WS 015	.50/70 Casing HC
528,	1661.43756,	8195.44726,	3047.09972,WS 023	.50/70 Casing LC
529,	1661.09379,	8195.18362,	3047.09639,WS 025	.50/70 Casing
Martin				
Primed				
530,	1661.26629,	8195.12022,	3047.08229,WS 026	.50/70 Casing HC
531,	1661.26629,	8195.12022,	3047.08229,WS 024	.50/70 Casing LC
532,	1661.91786,	8194.48616,	3047.02608,WS 032	.50/70 Casing HC
533,	1661.29355,	8193.24235,	3047.22946,WS 031	.50/70 Casing LC
534,	1660.82233,	8192.99662,	3047.29174,WS 030	.50/70 Casing LC
535,	1659.57676,	8193.82612,	3047.60834,WS 020	.50/70 Casing LC
536,	1659.31479,	8193.80251,	3047.73188,WS 019	.50/70 Casing LC
538,	1660.58807,	8194.84770,	3047.33313,WS 034	.50/70 Casing LC
539,	1658.62247,	8192.70342,	3047.93808,WS 021	.50/70 Casing LC
541,	1704.96707,	8087.44236,	3049.29984,WS 033	.50/70 Casing
542,	1844.68066,	7865.75288,	3048.85922,CAV 200	.50/70 Casing HC
555,	1077.79717,	8513.45997,	3050.51699,TL AA51	.50 Gov. Bullet,
450				
Gr. 3L3G, fired in a Springfield (DS)				
560,	1070.59523,	8544.68746,	3050.72338,TL AA70	.45/70 Unfired
Bullet				
561,	1126.37918,	8517.68815,	3051.25970,TL AA65	.50/70 LC Unfired
Bullet				
562,	1127.90455,	8517.82848,	3051.28371,TL AA69	.45/70 Unfired
Bullet				
563,	1108.72472,	8485.80338,	3050.17017,TL AA57	Liberty V Nickel
564,	1132.69784,	8487.99191,	3050.26133,TL AA55	.45 Bullet (.45/70
design)				
565,	1157.94852,	8434.51458,	3050.31269,TL AA52	1 lb. Weight
566,	1213.00141,	8409.94961,	3050.14127,TL AA56	Wagon Wheel Hub
567,	1176.37738,	8398.36088,	3050.74736,TL AA60	O-Ring
568,	1155.92285,	8373.66578,	3050.78597,TL AA75	Horse Buckle
569,	1157.73162,	8371.60196,	3050.84819,TL AA76	.32 CF Casing
fired				
in a Smith and Wesson revolver (NBR) (DS)				
570,	1132.41427,	8335.25451,	3049.23391,TL AA74	Buckle
571,	1104.11686,	8317.01738,	3050.31865,TL AA73	Utensil

572,	1124.78753,	8300.77603,	3050.35976, TL AA72	Utensil
573,	1126.25778,	8276.42590,	3049.88924, TL AA71	Wagon Hitch
574,	1141.18869,	8281.13373,	3049.75076, TL AA61	.50/70 HC Unfired
Bullet				
575,	1141.76097,	8280.79802,	3049.79110, TL AA63	.50/70 LC Unfired
Bullet				
576,	1141.78219,	8281.34259,	3049.81949, TL AA64	.50/70 LC Unfired
Bullet				
577,	1141.99762,	8281.52586,	3049.82919, TL AA68	.45/70 Unfired
Bullet				
578,	1141.49209,	8281.94703,	3049.83199, TL AA66	.45/70 Unfired
Bullet				
579,	1141.53713,	8282.25219,	3049.80902, TL AA67	.45/70 Unfired
Bullet				
621,	789.68759,	8424.52964,	3051.15251, TL AA37	Tent Pin
622,	821.70173,	8456.71795,	3050.88351, TL AA45	.30 Casing (CF)
Peters Headstamp (NBR) (DS)				
623,	829.42773,	8497.05944,	3050.79548, TL AA44	Wagon Diamond
624,	853.40923,	8582.03046,	3050.22911, TL AA54	.45/60 Casing (CF)
Post 1880 NBR (DS)				
625,	845.77887,	8642.38511,	3050.48250, TL AA53	.45/60 Casing (CF)
Post 1880 NBR (DS)				
626,	794.68937,	8691.14405,	3050.24475, TL AA36	Model 1816 Musket
Lock Plate				
627,	831.54630,	8719.32406,	3051.03785, TL AA21	.45 Bullet (.45/70 design)
628,	579.18568,	8792.51005,	3051.30021, .F2	Carbine sling
snap roller portion?				
665,	1199.04415,	6366.36151,	3086.31481, I4112/E4 016	.44 Rimfire
Casing fired in a Henry or Winchester(66)				
667,	1170.49570,	6349.73001,	3086.69035, I4 01	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
669,	1167.76944,	6328.74126,	3079.30212, I4 007	.44 Bullet, knurling
in the cannelures indicates post-battle artifact. (DS)				
670,	1162.29966,	6330.01335,	3079.66998, I4 008	.44 Bullet, knurling
in the cannelures indicates post-battle artifact (DS)				
671,	1155.76305,	6346.77162,	3084.46307, W4 033	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
672,	1161.65712,	6355.46735,	3087.62205, E4 011	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
673,	1151.53513,	6357.59303,	3087.04979, I4 018	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
674,	1147.08580,	6358.06541,	3087.14702, I4 020	.50 Gov. Bullet
3L3G, fired in a Springfield (DS)				
675,	1140.50067,	6344.69628,	3082.62454, I4 021	.50 Gov. Bullet
3L3G, fired in a Springfield (DS)				
676,	1149.89046,	6364.86831,	3089.02975, I4 019	.50 Bullet
677,	1148.70796,	6365.48989,	3089.22427, I4 119	.50 Gov. Bullet
3L3G, fired in a Springfield (DS)				
678,	1128.92560,	6372.70199,	3091.14952, I4 051	.44 Rimfire Casing
fired				
in Henry or Winchester 66)13 (DS)				
679,	1101.95340,	6373.13948,	3093.91885, I4 057	.44 Rimfire Casing
fired				
in Henry or Winchester(66)2 (DS)				
680,	1098.84816,	6373.67319,	3094.19337, I4 A8/058	.44 Rimfire Casing
fired in Henry or Winchester(66)11 (DS)				
681,	1095.10595,	6372.09744,	3093.65646, I4 069/W7	.44 Rimfire Casing
fired in Henry or Winchester(66)9 (DS)				
683,	1090.42954,	6377.95677,	3095.62841, I4 068/25	.44 Rimfire Casing
fired in Henry or Winchester(66)9 (DS)				
684,	1091.05633,	6382.38145,	3097.14969, I4 2K	.44L Rimfire Casing
fired				
in Ballard 4 (DS)				
685,	1091.86527,	6383.60287,	3097.86230, I4 133/W4 036	.44L Rimfire
Casing fired in Remington 1 (DS)				
686,	1095.19448,	6382.72329,	3097.55022, I4 063/46	.44 Rimfire Casing
fired in Henry or Winchester(66)16 (DS)				
687,	1095.68141,	6378.77241,	3096.08306, I4 064/2I	.44L Rimfire Casing
fired in a Remington				
688,	1094.88859,	6377.41951,	3095.60367, I4 065/4B	.44 Rimfire Casing

fired in a Henry or Winchester(66)			
689,	1098.03945,	6379.26526,	3096.29814,I4 062/2I .44 Rimfire Casing
fired in Henry or Winchester(66)10 (DS)			
690,	1099.89347,	6378.97951,	3096.22150,I4 060/4D .44 Rimfire Casing
fired in a Henry or Winchester(66)			
691,	1100.86565,	6380.15237,	3096.44801,I4 061/2D .44 Rimfire Casing
fired in Henry or Winchester(66)18 (DS)			
692,	1106.24087,	6379.84968,	3096.43185,I4 055/T9 .44L Rimfire Casing
REM1 (DS)			
693,	1138.79844,	6374.42789,	3091.22435,I4 042 .44 Rimfire
Casing fired in a Henry or Winchester(66)			
694,	1141.72980,	6374.41636,	3091.17464,I4 032/2E .44 Rimfire Casing
fired in a Henry or Winchester(66)			
695,	1149.96689,	6375.85866,	3091.67686,I4 031 Button
697,	1145.60404,	6378.35462,	3092.15512,I4 029 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
699,	1147.18529,	6381.61013,	3093.09937,I4 027 .56/50 Rimfire Casing
fired in Spencer(56-.50)1 (DS)			
700,	1150.61399,	6380.80692,	3092.93623,I4 026 Brass Gorget
701,	1151.37233,	6383.78319,	3093.82465,I4 025 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
702,	1155.53750,	6379.73022,	3093.14480,I4 017 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
703,	1157.02835,	6380.52518,	3093.41180,I4 135/W4 053A .44 Rimfire
Casing fired in a Henry or Winchester(66)			
704,	1157.64189,	6382.82533,	3093.67188,I4 W4 003 .50 Gov. Bullet,
450 Gr. fired in a Sharps (DS)			
705,	1164.81706,	6377.45599,	3092.52770,I4 015/4A .44 Rimfire Casing
fired in a Henry or Winchester(66)			
706,	1150.85785,	6388.62120,	3094.59151,I4 024 .50 Gov. Bullet
3L3G, fired in a Springfield (DS)			
707,	1149.87041,	6388.82024,	3094.51182,I4 023 .36 Pointed Nose
Bullet, 6L6G, left twist, Colt Navy type revolver (DS)			
708,	1140.46240,	6386.76629,	3094.07099,I4 041 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
710,	1136.38575,	6387.64735,	3094.30421,I4 040/E8 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
712,	1125.58402,	6386.35874,	3095.36426,I4 049 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
713,	1123.47777,	6383.85129,	3095.06084,I4 050 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
715,	1125.21116,	6391.56509,	3096.54030,I4 134/W4 and 051A .44
Rimfire			
Casing fired in Henry or Winchester(66)22			
716,	1133.80635,	6395.64294,	3096.32920,I4 047 .50/70 Casing, Martin
Primed			
717,	1136.46929,	6395.25749,	3095.87374,I4 046 .44L Rimfire Casing
fired in Smith & Wesson 1 (DS)			
718,	1139.93642,	6393.29158,	3095.59015,I4 116/W4 031 .44 Rimfire
Casing fired in a Henry or Winchester(66)			
719,	1139.61871,	6392.27631,	3095.51126,I4 039/2-0 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
720,	1154.93461,	6404.60995,	3097.23193,I4 022/X4 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
721,	1148.66101,	6410.33439,	3097.84739,I4 033/X3 .50/70 Casing, LC
722,	1146.64355,	6399.06583,	3096.51484,I4 034 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
723,	1144.66513,	6398.66081,	3096.48952,I4 035 .44 Rimfire Casing
(Win66)			
724,	1140.84723,	6400.52032,	3096.41881,I4 043 .44 Rimfire Casing
fired in Henry or Winchester(66)8 (DS)			
725,	1138.00274,	6396.87040,	3096.30633,I4 045 .44L Rimfire Casing
fired in Ballard 4 (DS)			
726,	1125.06257,	6392.67863,	3096.81997,I4 053/E5 .56/50 Rimfire
Casing fired in a Spencer(.56-.50)1 (DS)			
728,	1198.38620,	6290.19105,	3064.85647,I4 127 Unknown Casing
729,	1202.75595,	6289.44866,	3064.99609,I4 128 Unknown Casing
730,	1210.06068,	6298.96277,	3068.48753,I4 126 Unknown Casing
731,	1254.52230,	6289.57202,	3067.51388,I4 005 .50 Gov. Bullet, 450
grain, 3L3G, fired in a Springfield (DS)			
733,	1263.01682,	6293.25543,	3068.98853,I4 110 Unknown Casing

734,	1297.70285,	6275.43557,	3063.77325,I4 006/AA2 .44 Rimfire Casing
886,	1416.62776,	6097.41898,	3063.30546,BU AA83 .50 Gov. Bullet, 450
887,	1405.85351,	6121.98057,	3062.15701,P5 Horse Shoe
888,	1384.79421,	6132.73496,	3066.15216,BU AA63 .50 Gov. Bullet, 450
889,	1342.30823,	6173.68180,	3062.69550,AA84 .50 Gov. Bullet, 450
890,	1330.84519,	6129.68599,	3074.69933,
891,	1361.78011,	6100.08546,	3077.04546,AA85 .50 Gov. Bullet, 450
892,	1370.51865,	6095.86775,	3075.49642,AA71 .50 Gov. Bullet, 450
893,	1373.25057,	6070.36558,	3078.19327, AA11 .50 Gov. Bullet, 450
897,	1306.97006,	6044.83362,	3099.13828, AA9 .44 Bullet 5L5G 215
898,	1266.03525,	6004.61576,	3117.49316,B7 .50 Gov. Bullet, 450
899,	1266.43425,	5990.57336,	3119.58842,P8 .50 Gov. Bullet
900,	1268.62037,	5985.95433,	3119.57825, L7 .44 CF Casing
903,	1125.21819,	6039.08284,	3106.78122,AA73 .50 Gov. Bullet, 450
904,	1204.78372,	6107.12092,	3086.71320,L9 .50 Gov. Bullet, 450
905,	1205.62961,	6146.13246,	3077.34362,C9 .50 Gov. Bullet, 450
906,	1212.48668,	6157.75897,	3073.65431,AA10 .50 Gov. Bullet, 450
907,	1287.45796,	6101.20886,	3082.47282,AA62 .50 Gov. Bullet, 450
908,	1134.60669,	6104.19267,	3088.20212,AA83 .50 Gov. Bullet, 450
909,	1121.13968,	6089.89023,	3093.60744,AA12 .50 Gov. Bullet, 450
910,	1102.61536,	6097.81875,	3090.08397,AA75 .50 Gov. Bullet, 450
911,	1029.03789,	6043.69435,	3109.49583,AA22 .44 5L5G,Bullet, 215
912,	1023.24777,	6040.38258,	3110.73137,AA61 .50 Gov. Bullet, 450
913,	1017.58176,	6038.16224,	3110.88982,AA14 .50 Gov. Bullet, 450
914,	952.17716,	5990.31669,	3117.62484,AA15 .50 Gov. Bullet, 450
915,	964.99634,	5995.56636,	3118.35626,087 .50 Gov. Bullet, 450
916,	992.91471,	5996.95794,	3120.93980,P6 .44 cal. Bullet fired
917,	1034.16437,	6009.10529,	3121.97240,AA79 .50 Gov. Bullet, 450
918,	1045.92010,	6001.04054,	3124.73854,AA13 .50 Gov. Bullet, 450
919,	1036.03910,	5984.15076,	3129.35646,L8 .50 Gov. Bullet, 450
920,	1018.25116,	5976.46667,	3129.56051,P9 .50 Gov. Bullet, 450
921,	1128.03247,	5989.64108,	3119.00051,AA76 .50 Gov. Bullet, 450

923,	1235.18995,	6306.79919,	3072.07781,	IND4W 502 .45 Bullet
925,	1194.90553,	6301.46776,	3069.04116,	IND4 B5 .44L Rimfire Casing
fired in Smith & Wesson 1 (DS)				
927,	1003.10493,	6340.97238,	3082.32413,	016/W 4002 .50/70 Casing, LC
928,	952.76306,	6337.61615,	3085.19667,	AA20 .36 cal. Round Ball too
deformed to determine additional information				
931,	723.48098,	6396.32599,	3120.85907,	BB74 .50 Gov. Bullet, 450
Gr. fired in a Springfield				
932,	732.24187,	6393.19742,	3119.59565,	C3 .50/70 LC Casing
fired in Springfield(1866)1 (DS)				
933,	836.16498,	6399.22361,	3118.43357,	N2 .44 Rimfire Casing
fired in Henry or Winchester(66)19 (DS)				
934,	866.38582,	6395.08733,	3116.43767,	076 .50/70 LC Casing
fired in Springfield(1866) 1 (DS)				
935,	872.20344,	6404.46662,	3121.55579,	AA64/131 .44 Rimfire Casing
fired in Henry or Winchester(66)17 (DS)				
936,	881.68940,	6407.28868,	3122.76169,	B3 .44L Rimfire Casing
SW1 (DS)				
937,	886.64289,	6401.17875,	3120.15124,	C6 .44 Rimfire Casing
fired in Henry or Winchester(66)8 (DS)				
938,	888.69799,	6404.91454,	3121.73469,	C5 .44 Rimfire Casing
fired in Henry or Winchester(66)20 (DS)				
939,	893.45814,	6383.27123,	3110.54319,	AA43 .44 Rimfire Casing
fired in a Henry or Winchester(66)				
940,	899.62120,	6384.14360,	3110.91160,	AA58 .44 Rimfire Casing
fired in a Henry or Winchester(66)				
942,	927.40157,	6391.42732,	3115.07263,	191 Unknown Casing
943,	931.77632,	6402.83577,	3120.25154,	188 Unknown Casing
944,	931.18014,	6403.82726,	3120.54175,	187 Unknown Casing
945,	931.71340,	6405.07017,	3121.08602,	185 Unknown Casing
946,	932.03264,	6405.02561,	3121.09127,	186 Unknown Casing
947,	930.49156,	6406.82459,	3121.72826,	183 Unknown Casing
948,	933.63444,	6404.93871,	3121.14673,	184 Unknown Casing
949,	934.62973,	6414.18431,	3124.86833,	180 Unknown Casing
950,	937.51584,	6413.86021,	3124.86907,	179 Unknown Casing
951,	940.64657,	6413.64647,	3124.66054,	176 Unknown Casing
952,	941.72740,	6413.50941,	3124.46747,	177 Unknown Casing
953,	942.51015,	6412.60012,	3123.84251,	175 Unknown Casing
954,	944.81572,	6414.46971,	3124.47275,	178 Unknown Casing
955,	948.22954,	6415.31937,	3124.75250,	168 Unknown Casing
956,	953.41718,	6415.91763,	3124.63856,	M6 .44 Rimfire Casing
fired in a Henry or Winchester(66)				
957,	954.22136,	6413.74116,	3123.49715,	M8 .44 Rimfire Casing
fired				
in Henry or Winchester(66)23 (DS)				
958,	958.99717,	6414.15210,	3123.18172,	M9 .44 Rimfire Casing
fired				
in Henry or Winchester(66)31 (DS)				
959,	964.19541,	6412.67636,	3121.95739,	153 Unknown Casing
960,	962.43545,	6411.67627,	3121.71677,	154 Unknown Casing
961,	960.53406,	6409.92780,	3121.36616,	155/W4 039 .44 Rimfire Casing
fired in a Henry or Winchester(66)				
962,	976.78131,	6419.26832,	3122.14112,	B6 .44 Rimfire Casing
fired				
in Henry or Winchester (66)15 (DS)				
963,	980.01161,	6425.74149,	3123.51348,	IND4 C1 .44 Rimfire Casing
fired in Henry or Winchester(66)21 (DS)				
964,	985.74111,	6424.57902,	3121.96564,	B1 .50/70 Casing
(American				
Center Fire)				
965,	990.23325,	6422.87427,	3120.46565,	78 .50/70 Casing (Martin
Primed) fired in Sharps 4 (DS)				
967,	1012.36231,	6438.24506,	3117.30620,	066 .44 Rimfire Casing
fired				
in a Henry or Winchester(66)9 (DS)				
968,	1015.67532,	6428.87164,	3116.05456,	064 .44L Rimfire Casing
fired in Remington 1 (DS)				
969,	1020.81781,	6419.88904,	3113.19761,	B2 .56/52 Rimfire Casing
fired in Spencer(56-.56)5 (DS)				
970,	993.54644,	6417.80455,	3118.17924,	79 .50/70 LC Casing fired
fired in Sharps 1 (DS)				

971,	983.96519,	6421.58266,	3121.37901,C2	.44 Rimfire Casing
fired				
in Henry or Winchester (66)23 (DS)				
972,	983.86837,	6416.12864,	3119.82282,151/W8	.44 Rimfire Casing
fired				
in Henry or Winchester(66)31 (DS)				
973,	980.26273,	6414.58177,	3119.88206,150	Unknown Casing
974,	973.17200,	6412.21156,	3120.28046,52	.56/50 Rimfire Casing
fired in a Spencer(.56-.50)				
975,	970.67201,	6412.19780,	3120.77619,54	.56/50 Rimfire Casing
fired in a Spencer(56-.50)2 (DS)				
976,	965.99602,	6406.69630,	3119.16167,156/F8	.44L Rimfire Casing
fired in a Henry or Winchester(66)				
978,	957.85795,	6405.14756,	3119.82939,159/M7	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
979,	952.03751,	6403.52232,	3119.78759,161	Unknown Casing
980,	949.58880,	6403.30401,	3119.62246,160	Unknown Casing
982,	946.24787,	6408.52529,	3122.03500,169	Unknown Casing
984,	942.33207,	6407.70945,	3121.97158, W4 200	.44 Rimfire Casing
(Cursive)fired in Henry or Winchester (66)21 (DS)				
985,	941.50269,	6407.50507,	3121.92612,173	Unknown Casing
986,	940.19581,	6407.00082,	3121.62936,172	Unknown Casing
987,	941.22815,	6405.84076,	3121.11789,171	Unknown Casing
988,	943.94507,	6399.82114,	3118.56684,163	Unknown Casing
989,	946.04244,	6399.95716,	3118.51435,164	Unknown Casing
990,	947.44927,	6397.69032,	3117.38223,162/W4 038	.44 Rimfire Casing
fired in Henry or Winchester(66)31 (DS)				
991,	949.39161,	6395.70453,	3116.21018,165	Unknown Casing
992,	950.16674,	6400.54362,	3118.42423,167	Unknown Casing
994,	949.58619,	6382.37472,	3109.26345,168	Unknown Casing
995,	961.25819,	6390.75097,	3112.94892,166	Unknown Casing
996,	977.71183,	6389.49773,	3110.51997,152	Unknown Casing
998,	998.00424,	6391.64433,	3108.57292,A9	.56/50 Rimfire Casing
fired in a Spencer				
999,	1000.38243,	6405.34885,	3113.08907,110	Unknown Casing
1000,	1000.23422,	6410.01950,	3114.45021,108	Unknown Casing
1001,	1000.10519,	6411.91360,	3114.83592,109	Unknown Casing
1002,	1013.93341,	6407.80746,	3111.01477,107	Unknown Casing
1003,	1023.68536,	6415.07000,	3111.36915,106	Unknown Casing
1004,	1027.87453,	6413.72728,	3110.42317,105	Unknown Casing
1005,	1030.44236,	6410.60573,	3109.15211,104	Unknown Casing
1006,	1071.57063,	6416.74151,	3106.65502,098	Unknown Casing
1007,	1095.75853,	6404.02045,	3103.52700,070	.44 Rimfire Casing fired
in a Henry or Winchester(66)				
1008,	1091.45213,	6406.06186,	3103.87414,071	.44 Rimfire Casing fired
in Henry or Winchester(66)1 (DS)				
1009,	1096.03424,	6397.82055,	3102.37340,072	.44 Rimfire Casing fired
in Henry or Winchester(66)1 (DS)				
1011,	1092.96092,	6396.92209,	3102.18317,132/W4 050A	.44 Rimfire
Casing				
fired in a Henry or Winchester(66)				
1012,	1090.27859,	6400.42833,	3102.69910,074/4E	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1013,	1088.04801,	6402.85425,	3103.33970,081	Unknown Casing
1014,	1086.14261,	6402.28267,	3103.15886,083/F4	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1015,	1083.31260,	6403.39233,	3103.64914,084/F7	.44L Rimfire Casing
REM				
1016,	1086.59616,	6399.48918,	3102.65536,85/F5	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1018,	1088.29256,	6392.91924,	3100.67868,075/4F	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1019,	1084.31326,	6389.35761,	3099.36778,077	.44 Rimfire Casing
fired in Henry or Winchester(66)9 (DS)				
1020,	1082.73921,	6393.07404,	3100.59864,086/F2	.44 Rimfire Casing
fired in Henry or Winchester(66)20 (DS)				
1021,	1080.66046,	6393.84620,	3100.80114,87/F3	.44 Rimfire Casing
fired in Henry or Winchester(66)20 (DS)				
1022,	1082.97051,	6377.21167,	3095.41065,080	Unknown Casing
1023,	1071.49888,	6384.24652,	3097.75699,090/A5	.56/50 Rimfire Casing
fired in a Spencer(56-.56)3 (DS)				

1024,	1073.01368,	6390.92963,	3099.97274,091/A4	.44 Rimfire Casing
fired in a Henry or Winchester(66)12 (DS)				
1025,	1075.07425,	6392.04916,	3100.40577,089/2M	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1026,	1075.72677,	6393.84866,	3100.99415,088/F1	.44L Rimfire Casing
SW1				
(DS)				
1027,	1074.69090,	6396.65410,	3101.76503,092/F2	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1029,	1067.18139,	6401.62528,	3103.12645,095/A2	.56/56 Rimfire Casing
fired in a Spencer(56-.56)1 (DS)				
1030,	1066.64634,	6404.42359,	3103.87559,096/A3	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1031,	1064.77886,	6402.14701,	3103.40600,097	.56/56 Rimfire Casing
fired in a Spencer(56-.56)1 (DS)				
1032,	1065.77846,	6394.99506,	3101.17918,093	.50/70 Casing High
Crimp				
fired in a Springfield(1866)5 (DS)				
1033,	1057.89954,	6409.62115,	3106.00374,102	.50/70 Casing (Low
Crimp)				
1034,	1058.11850,	6412.16872,	3106.56687,103	Unknown Casing
1035,	1051.50673,	6400.57186,	3104.07940,100/A7	.56/56 Rimfire Casing
fired in a Spencer(56-.56)4 (DS)				
1036,	1049.47925,	6398.44758,	3103.45941,101/A6	.56/56 Rimfire Casing
fired in a Spencer(56-.56)2 (DS)				
1040,	1137.23645,	6398.43624,	3096.41031,044	Unknown Casing
1042,	1145.42555,	6394.98734,	3095.73092,037	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1043,	1148.21475,	6393.95423,	3095.69714,038	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1046,	1255.47475,	6280.84453,	3064.38951,AA42	.38 Casing
1048,	-22.12754,	8780.88033,	3125.46267,AA501	.56/52 Rimfire Casing
fired in a Spencer				
1050,	37.28364,	8705.36819,	3126.66460,AA502	.56/52 Rimfire Casing
fired in a Spencer				
1058,	233.04583,	8319.58957,	3133.89481,AA500	.56/50 Rimfire Casing
fired in a Spencer				
1060,	279.35459,	8471.48765,	3107.48505,111	.44 Colt Unfired Bullet
1061,	216.37407,	8479.72108,	3116.77739,112	Horse Shoe Nail
1062,	203.81489,	8467.24323,	3121.83629,113	Cut Chain Link
1072,	957.98710,	8351.53198,	3050.12507,TL	Unknown Bullet
1073,	1002.76630,	8312.27491,	3050.25055,004/W4	.50/70 Case, High
Crimp				
1074,	1005.17897,	8312.79683,	3050.44840,NBR005	405 Gr. Govt.3L3G,
fired in a Springfield, NBR				
1076,	1078.26675,	8265.89079,	3050.23606,WSTL301	.58 Round Ball (DS)
1077,	1097.97552,	8264.28098,	3050.19146,WSTL201	.52 Bullet, 3 Ring
fired in a Spencer, 6L6G (DS)				
1078,	1157.98851,	8432.01921,	3050.48910, INF 008	.50/70 Casing, Low
Crimp				
1082,	2998.60178,	7441.48029,	3045.39353,082	INF 082 .32 Casing fired
in a Smith and Wesson NBR (DS)				
1083,	3018.22437,	7442.48566,	3046.56375,056	.44 Pointed Nose Bullet,
approximately 200 grain				
1084,	3027.27824,	7447.97581,	3045.80601,INF 060	.50/70 Casing, HC
1085,	3037.98732,	7450.14720,	3045.72970,055	.50/70 Casing, LC
1087,	3181.46612,	7562.76518,	3045.05522,066	.50/70 Casing, LC
1090,	3325.09994,	7733.65370,	3045.04488,057	.50/70 Casing, LC
1094,	3342.21441,	7729.64838,	3044.95519,054	.50/70 Casing, LC
1095,	3390.67036,	7762.45115,	3045.20595,059	.46/50 Bottleneck Casing
1096,	3509.10192,	8235.66256,	3044.83890,.50/70	Casing found by Ken
Feyhl, Harold Hagen donated to Montana Historical Society.				
1097,	363.71335,	7677.08734,	3125.34370,IND2 M1	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1098,	372.75373,	7674.62468,	3126.13044,IND2 M2	.44 Rimfire Casing
fired in a Henry or Winchester(66)				
1104,	386.47869,	7674.52225,	3127.57890,IP2	W1 .44 Rimfire Casing
fired in a Henry or Winchester(66)				
1110,	458.37406,	7607.57362,	3124.09323,EU AA16	.50/70 Gov. Bullet,
450				
Gr. fired in a Springfield(DS)				

1113,	479.05141,	7478.25925,	3131.47199,X2	.44 Rimfire casing fired	
in	a Henry or Winchester(66)				
1114,	480.06970,	7482.44995,	3132.85053,X1	.44 Rimfire Casing fired	
in	Henry or Winchester(66)34 (DS)				
1119,	484.06780,	7465.41004,	3127.27837,IND3 B4	.44 Rimfire Casing	
fired in Henry or Winchester(66)10 (DS)					
1120,	481.98558,	7458.11102,	3123.50800,W3 004	.44 Rimfire Casing	
fired in Henry or Winchester(66)32 (DS)					
1123,	456.74199,	7498.57643,	3136.44324,W3	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1126,	521.78206,	7463.13622,	3122.62650,AA3	.44 Bullet, 3 Ring,	
5L5G, fired in a Henry or Win Model 1866 (DS)					
1141,	1056.38721,	6614.91702,	3076.42844,AA70	.50 Gov. Bullet, 450	
Gr.	fired in a Springfield (DS)				
1143,	1080.01726,	6640.27748,	3068.36076,AA68	.50 Gov. Bullet, 450	
Gr.	1182,	1126.60794,	6580.08917,	3071.52916,AA67	.50 Gov. Bullet, 450
Gr.	fired in a Springfield (DS)				
1184,	1157.69321,	6506.39777,	3080.68133,082	.50 Gov. Bullet, 450	
Gr.	Fired in a Sharps (DS)				
1185,	1135.48267,	6493.69124,	3088.23359,080	.50 Gov. Bullet, 450	
Gr.	fired in a Springfield (DS)				
1186,	1156.30806,	6460.81824,	3089.56686,AA39	.50 Gov. Bullet, 450	
Gr.	1192,	1088.21061,	6516.68938,	3096.44296,P7	.50 Gov. Bullet, 450
Gr.	fired in a Springfield (DS)				
1193,	1088.35085,	6515.15390,	3096.65250,AA72	.50 Gov. Bullet, 450	
Gr.	1195,	1052.50304,	6521.37357,	3100.96420,P4	.38 Cal. Bullet
knurled cannellures, a feature not introduced until 1875 (DS)					
1203,	1037.35042,	6510.82053,	3103.45709,IND4 124	.50 Gov. Bullet, 450	
Gr. 3L3G, fired in a Springfield (DS)					
1204,	1038.84540,	6508.81676,	3103.44423,IND4 123	.50 Gov. Bullet, 450	
Gr. 3L3G, fired in a Springfield (DS)					
1218,	1259.34333,	6314.17337,	3072.33203,E4 018/111	.44 Rimfire	
Casing,	fired in Henry or Winchester(66)21 (DS)				
1221,	1245.14249,	6316.15319,	3073.77550, E5 001	.50 Gov. Bullet, 450	
Gr. 3L3G fired in a Springfield (DS)					
1249,	1162.72286,	6407.76158,	3095.45302,.22 Cal. Rimfire Casing		
1259,	1162.12595,	6350.95000,	3086.32429, E4 012	.44L Rimfire Casing	
SW1	(DS)				
1260,	1157.77039,	6349.30746,	3085.41969, E4 013	.50 Gov. Bullet, 450	
grain, 3L3G fired in a Springfield (DS)					
1265,	1146.09936,	6379.07411,	3092.48648, W4 029	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1271,	1141.52600,	6398.56642,	3096.22037, W4 036	.44L Rimfire REM1	
(DS)	1290,	1120.81048,	6427.33130,	3101.03512,T8/059	.44 Rimfire Casing
fired in Henry or Winchester(66)9 (DS)					
1297,	1096.41678,	6375.62777,	3095.11380,2L/067	.44L Rimfire casing	
fired in Ballard 4 (DS)					
1298,	1093.92481,	6378.66064,	3096.14380,066/4-C	.44 Rimfire Casing	
fired in Remington 1 (DS)					
1325,	1063.73714,	6432.05000,	3108.81203,4B/099	.44 Rimfire Casing	
fired in Remington 1 (DS)					
1358,	994.75517,	6375.38747,	3100.99936,131	Unknown Casing	
1372,	1008.61619,	6466.32406,	3114.81716,120/E4 009	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1411,	925.72514,	6405.05674,	3121.28902,189	Unknown Casing	
1414,	937.52090,	6421.08671,	3126.37268,182	Unknown Casing	
1417,	949.54965,	6421.01792,	3126.57367,167	Unknown Casing	
1426,	1027.04415,	6502.77307,	3105.47948,IND4 125	Unknown casing	



1430,	1295.94148,	5675.61068,	3129.95240,IND5 Z1 Med. Sq Nail
1431,	1305.26855,	5691.08983,	3127.80709,IND5 T6 Large Sq Nail
1441,	1254.92010,	5214.43570,	3118.04393,IND7 W7400 .50/70 Casing LC
1442,	1144.79360,	5206.12601,	3127.98686,IND7 W6AA62 .44 Rimfire
Casing			
fired in a Henry or Winchester(66)			
1443,	1112.96579,	5221.37293,	3133.19841,IND7 W6AA63 .44 Rimfire
Casing			
fired in a Henry or Winchester(66)			
1448,	1305.74286,	5327.21928,	3129.24642,IND7 W6 AA34 .50/70 Casing
(Martin Primed)fired in Sharps (9) (DS)			
1449,	1285.55388,	5306.02879,	3126.66797,IND7 AA41 .44 Rimfire
Casing			
fired in a Henry or Winchester(66)			
1452,	1377.20170,	5443.56957,	3132.18294,IND6 B1A .44L Rimfire
Casing			
BAL2 (DS)			
1453,	1358.86598,	5427.41473,	3130.50346,IND6 1-R .56/56 Rimfire
Casing fired in Spencer(56-.56)9 (DS)			
1454,	1359.70794,	5424.96108,	3130.17305, IND6 R8 .44 Rimfire
Casing			
fired in Henry or Winchester(66)23			
1455,	1356.42456,	5425.61261,	3130.00322,IND6 R9 .44 Rimfire
Casing			
fired in Henry or Winchester(66)23			
1456,	1368.03945,	5419.66645,	3130.00879,IND6 1-Q .56/56 Rimfire
Casing fired in Spencer(56-.56)8 (DS)			
1458,	1378.25164,	5421.77228,	3131.68829,IND6 P2 .50/70 Casing HC
fired in Sharps 5 (DS)			
1459,	1384.74864,	5404.73641,	3129.53622,IND6 080 .44L Rimfire
Casing			
fired in Ballard 2 (DS)			
1460,	1390.15339,	5396.49742,	3128.74707,IND6 J6 .44 Rimfire
Casing			
fired in Henry or Winchester(66)2 and Henry or Winchester(66)12 (DS)			
1461,	1396.23122,	5389.73360,	3128.57418,IND6 D3 .44 Rimfire
Casing			
fired in Henry or Winchester(66)21 (DS)			
1462,	1396.23122,	5389.73360,	3128.57418,IND6 C8 .44 Rimfire
Casing			
fired in a Henry or Winchester(66)			
1463,	1397.08069,	5392.88340,	3129.44305,IND6 01A .44L Rimfire
Casing			
fired in Ballard 1 (DS)			
1464,	1397.96404,	5392.35318,	3129.50588,IND6 D2 .44 Rimfire
Casing			
(Cursive) fired Henry or Winchester(66)21 (DS)			
1465,	1402.28122,	5395.65417,	3130.88349,IND6 L6 .44XL CF Casing
1466,	1408.86679,	5385.93719,	3130.33983,IND6 L2 .44L Rimfire
Casing			
fired in Ballard 1 (DS)			
1467,	1405.33441,	5382.32778,	3128.63420,IND6 L1 .44L Rimfire
Casing			
fired in Ballard 1 (DS)			
1468,	1407.08518,	5380.30890,	3128.66350,IND6 P3 .44L Rimfire
Casing			
fired in Ballard 5 (DS)			
1469,	1414.17070,	5373.16625,	3128.50683,IND6 D1 .44 Rimfire
Casing			
fired in a Henry or Winchester(66)			
1481,	1454.39564,	5320.41710,	3118.97958,IND6 IND6XX33 .44 Rimfire
Casing fired in a Henry or Winchester(66)			
1482,	1431.54543,	5335.61201,	3122.83270,IND6 1T .44 Rimfire
Casing			
fired in a Henry or Winchester(66)			
1483,	1423.78578,	5333.66384,	3120.30989, IND6R2 .50/70 casing
(Martin Primed) fired in Sharps 7 (DS)			
1484,	1417.63289,	5335.39899,	3119.12128,IND6 R3 .44L Casing fired
In Smith & Wesson 1 (DS)			
1485,	1418.26839,	5337.36039,	3120.03632,IND6 R5 .44 Rimfire
Casing			

fired in a Henry or Winchester(66)				
1486,	1413.68083,	5339.14295,	3119.11740,IND6 1-M	.50/70 Casing
(Martin Primed)fired in Sharps 10 (DS)				
1487,	1409.25997,	5338.66098,	3117.95477,IND6 I8	.44 Rimfire
Casing				
fired in a Henry or Winchester (Cursive)				
1488,	1408.26620,	5329.85029,	3114.89700,IND6 I9	.44 Rimfire
Casing				
fired in a Henry or Winchester (Cursive)				
1489,	1408.64209,	5311.19808,	3109.07084,IND6 T9	.44 Rimfire
Casing				
fired in Henry or Winchester(66)7 (DS)				
1490,	1407.49559,	5340.58337,	3117.85921,IND6 I4	.44 Rimfire
Casing				
fired in Henry or Winchester(66)8 and Henry or Winchester(66)26 (DS)				
1491,	1408.65917,	5342.49173,	3118.77427,IND6 I7	.44 Rimfire
Casing				
fired in Henry or Winchester(66)24 (DS)				
1492,	1401.70707,	5348.09341,	3118.25755,IND6 I2	.44 Rimfire
Casing				
fired in Henry or Winchester(66)25 (DS)				
1493,	1401.01770,	5350.56905,	3118.89762,IND6 I1	.44 Rimfire
Casing				
fired in Henry or Winchester(66)29 (DS)				
1494,	1400.29067,	5356.14719,	3120.25690,IND6 D9	.44 Rimfire
Casing				
fired in Henry or Winchester (66)26 (DS)				
1495,	1406.22393,	5365.70754,	3124.56521,IND6 D4	.44 Rimfire
Casing				
fired in Henry or Winchester(66)29 (DS)				
1496,	1398.11029,	5371.83344,	3124.34329,IND6 L3	.44 Rimfire
Casing				
fired in Henry or Winchester(66)26 DS)				
1497,	1396.21776,	5373.01119,	3123.83133,IND6 L4	.44 Rimfire
Casing				
fired in Henry or Winchester(66)3 (DS)				
1498,	1396.48267,	5373.82131,	3124.28469,IND6 K9	.44 Rimfire
Casing				
fired in a Henry or Winchester(66)				
1499,	1396.32709,	5375.84222,	3124.83570,IND6 K7	.44 Rimfire
Casing				
fired in Henry or Winchester(66)2 (DS)				
1500,	1396.26114,	5377.73298,	3125.29482,IND6 K8	.44 Rimfire
Casing				
fired in Henry or Winchester(66)24 (DS)				
1501,	1393.04006,	5374.61338,	3123.42265,IND6 J7	.44 Rimfire
Casing				
fired in Henry or Winchester(66)25 (DS)				
1502,	1392.41946,	5375.61499,	3123.56199,IND6 J9	.44 Rimfire
Casing				
fired in Henry or Winchester(66)25 (DS)				
1503,	1390.86985,	5374.79702,	3122.92742,IND6 I-5	.44 Rimfire
Casing				
fired in Henry or Winchester(66)21 (DS)				
1504,	1387.28099,	5377.87537,	3122.62581,IND6 I6	.44 Rimfire
Casing				
fired in a Henry or Winchester(66)				
1505,	1401.59155,	5377.71937,	3126.65714,IND6 K2	.44 Rimfire
Casing				
fired in Henry or Winchester(66)2 And Henry or Winchester(66)26 (DS)				
1506,	1399.74709,	5378.59877,	3126.35972,IND6 K1	.44 Rimfire
Casing				
fired in a Henry or Winchester(66)				
1507,	1400.37457,	5380.64556,	3127.21870,IND6 K5	.44 Rimfire
Casing				
fired in a Henry or Winchester(66)				
1508,	1400.46755,	5382.26887,	3127.70275,IND6 K3	.44 Rimfire
Casing				
fired in Henry or Winchester(66)2 (DS)				
1509,	1397.80138,	5384.43907,	3127.53570,IND6 K4	.44 Rimfire
Casing				

fired in Henry or Winchester(66)2 (DS)					
1510,	1396.29880,	5383.64588,	3127.00520,IND6 J3	.44	Rimfire
Casing					
fired in a Henry or Winchester(66)					
1511,	1393.35721,	5384.38346,	3126.42752,IND6 J1	.44	Rimfire
Casing					
fired in Henry or Winchester (66)21 (DS)					
1512,	1391.08598,	5385.60028,	3126.21121,IND6 J2	.44	Rimfire
Casing					
fired in Henry or Winchester (66)21 (DS)					
1513,	1379.45030,	5381.45764,	3121.65797,IND6 D8	.44	Rimfire
Casing					
fired in Henry or Winchester (66)26 (DS)					
1514,	1382.56151,	5382.79551,	3122.92416,IND6 D7	.44	Rimfire
Casing					
fired in Henry or Winchester(66)24 (DS)					
1515,	1379.74957,	5384.79290,	3122.84032,IND6 D5	.44	Rimfire
Casing					
(Cursive) fired in Henry or Winchester(66)21 (DS)					
1516,	1370.24963,	5382.83340,	3119.71493,W6 049	.44	Rimfire
Casing					
fired in a Henry or Winchester(66)37 (DS)					
1517,	1379.90725,	5388.24848,	3124.10000,IND6 D5A	.44	Rimfire
Casing					
(Cursive) fired in Henry or Winchester(66)21 (DS)					
1518,	1376.83275,	5393.70184,	3124.71100,IND6 083	.44	Rimfire
Casing					
fired in a Henry or Winchester(Win)					
1519,	1379.03126,	5393.39003,	3125.30623,IND6 082	.44	Rimfire
Casing					
fired in a Henry or Winchester(66)3 (DS)					
1520,	1383.42670,	5388.29291,	3124.77524,IND6 D6	.44	Rimfire
Casing					
fired in a Henry or Winchester(66)8 (DS)					
1521,	1385.85916,	5384.94220,	3124.62996,IND6 J8	.44	Rimfire
Casing					
fired in Henry or Winchester(66)25 (DS)					
1522,	1393.53262,	5387.28221,	3127.19753,IND6 L5	.44	Rimfire
Casing					
(Cursive) fired in Henry or Winchester(66)21 (DS)					
1524,	1388.49643,	5391.75238,	3127.25600,IND6 J4	.44	Rimfire
Casing					
fired in Henry or Winchester(66)12 (DS)					
1525,	1385.06249,	5394.19827,	3127.15131,IND6 J5	.44	Rimfire
Casing					
fired in Henry or Winchester(66)25 (DS)					
1527,	1372.75201,	5407.64624,	3127.95319,IND6 R6	.44	Rimfire
Casing					
fired in Henry or Winchester(66)5 (DS)					
1528,	1369.94016,	5411.34202,	3128.15431,IND6 R7	.56/52	Rimfire
Casing fired in a Spencer					
1530,	1365.55319,	5410.47249,	3127.16783,IND6 1-N	.44	Rimfire
Casing					
fired in a Henry or Winchester(66)					
1531,	1363.35722,	5410.63026,	3126.72408, IND6S2	.44	Rimfire
Casing					
fired in Henry or Winchester(66)23 (DS)					
1532,	1362.23353,	5412.32216,	3127.10123, IND6S3	.44	Rimfire
Casing					
fired in Henry or Winchester(66)23 (DS)					
1533,	1358.01113,	5395.94357,	3121.35926, IND6S5	.44	Rimfire
Casing					
fired in Henry or Winchester (66)22 (DS)					
1534,	1354.89490,	5397.17250,	3121.34616, IND6S6	.44	Rimfire
Casing					
fired in Henry or Winchester(66)28 (DS)					
1536,	1357.41160,	5415.01211,	3127.05140,IND6 1P	.50/70	Casing
(Martin Primed)fired in Sharps 6 (DS)					
1537,	1357.46736,	5415.28435,	3127.06577,IND6 1-0	.44	Rimfire
Casing					
fired in Henry or Winchester(66)9 (DS)					

1540,	1388.05050,	5501.38269,	3131.10220,IND5 L9 .50 Gov. Bullet, 450
Gr.			
1541,	1407.09806,	5466.96082,	3126.22344,Z6 .50 Gov. Bullet, 450
Gr.			
1542,	1474.50068,	5377.96701,	3125.79223,IND6 B8 Large Square Nail
1543,	1480.74512,	5389.83066,	3121.94697,IND6 1-L .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1544,	1496.14404,	5360.58266,	3122.86217,T8 .50 Gov. Bullet, 450
Gr.			
1545,	1496.93996,	5355.11237,	3122.68610,T7 .50 Gov. Bullet, 450
Gr.			
1546,	1495.70126,	5338.89802,	3120.92233,IND6 1-E .44 Rimfire Casing
fired in Henry or Winchester(66)35 (DS)			
1547,	1504.08605,	5331.19884,	3116.65476,IND6 C4 .44 Rimfire Casing
fired in Henry or Winchester(66)1 (DS)			
1548,	1501.82175,	5326.32221,	3115.99279,IND6 I-3 .44 Rimfire Casing
fired in a Henry or Winchester(66)1 (DS)			
1549,	1504.86406,	5316.77289,	3111.83138,IND6 AA77 Large Square Nail
1550,	1508.32105,	5302.78416,	3105.86412,IND6 1-U .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1551,	1509.27671,	5303.81515,	3106.23923,IND6 1-V .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1552,	1519.35226,	5311.91809,	3106.51085,IND6 AA69 .44 Cal. Round Ball
(Poor Casting) (DS)			
1553,	1582.10118,	5366.89256,	3095.60766,T2 .32 Bullet 6L6G
1554,	1600.26768,	5375.20545,	3089.10332,118 .50 Gov. Bullet,
450			
Gr. 3L3G, fired in a Springfield (DS)			
1555,	1590.12623,	5400.44349,	3090.93154,IND6 1-J .44 Rimfire Casing
fired in a Henry or Winchester(66)36 (DS)			
1556,	1574.47025,	5407.68019,	3093.55186,IND6 1-I .44L Rimfire Casing
Ball (DS)			
1557,	1570.66691,	5406.35550,	3094.52287,IND6 1-H .44 Rimfire Casing
BAL6 (DS)			
1558,	1605.41941,	5421.80469,	3084.77474,117 .50 Gov. Bullet, 450
Gr. 3L3G, fired in a Springfield (DS)			
1559,	1650.15112,	5401.02127,	3076.44705,Z4 .50 Gov. Bullet, 450
Gr.			
1560,	1651.37287,	5358.87054,	3078.14499,Z3 .50 Gov. Bullet, 450
Gr.			
1561,	1673.27906,	5340.56030,	3074.47387, T4 .44 Bullet 6L6G,200 Gr.
1562,	1639.14873,	5308.06378,	3081.25089,AA78 .50 Gov. Bullet, 450
Gr.			
1563,	1625.41378,	5316.77518,	3084.84767, 6T3 .50 Gov. Bullet, 450
Gr.			
1564,	1596.65368,	5310.35776,	3087.86660,IND6 T1 .25 Cal. Stevens
Short Rimfire Casing US Headstamp (DS)			
1565,	1617.06783,	5299.87829,	3080.81987,Z5 .50 cal. Bullet
(probably fired in an Enfield)			
1566,	1737.76987,	5317.46253,	3073.12949, IND6 S8 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1570,	1417.55828,	5408.87436,	3128.83881,IND6 T5 .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1571,	1436.96073,	5409.72334,	3124.50840,IND6 1-W .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1572,	1461.23889,	5402.90430,	3121.81595,IND6 1S .56/50 RF Casing
fired			
in Spencer(.56-.56)7 (DS)			
1573,	1447.19870,	5441.28327,	3117.72789,IND6 1-B .44 Rimfire Casing
fired in Henry or Winchester(66)23 (DS)			
1575,	1457.59116,	5436.41404,	3116.21857,IND6 1-C .44 Rimfire Casing
fired in Henry or Winchester(66)21 (DS)			
1576,	1509.34917,	5441.80077,	3104.51144,IND6 1-A .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1577,	1545.61629,	5425.42039,	3097.05438,IND6 1-K .44 Rimfire Casing
fired in a Henry or Winchester(66)			
1578,	1548.34309,	5413.63371,	3098.32589,IND6 1-G .44 Rimfire Casing
fired in BAL7 (DS)			
1579,	1554.99478,	5513.01672,	3104.16213,AA23 .50 Gov. Bullet, 450
Gr. 3L3G, fired in a Springfield (DS)			
1580,	1554.77577,	5534.50447,	3101.03368, 114 .50 Gov. Bullet, 450

Gr.					
1581,	1541.55155,	5561.33422,	3098.93082, 116	.50 Gov. Bullet, 450	
Gr. 3L3G, fired in a Springfield (DS)					
1582,	1520.34929,	5563.57583,	3100.91288, Z-2	.45/70 Bullet	
1583,	1573.29100,	5625.95534,	3076.40980, 115	.50 Gov. Bullet, 450	
Gr. 3L3G, fired in a Springfield (DS)					
1584,	1434.24235,	6238.49057,	3063.80481, E4 216	Unknown Casing	
1585,	1351.14121,	6336.07700,	3089.29441, E4 127	.44 Rimfire Casing	
fired in Henry or Winchester(66)22 (DS)					
1586,	1298.39058,	6328.36720,	3096.57147, 044	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1587,	1292.49259,	6318.00634,	3094.36175, W4 029	Unknown casing	
1588,	1282.71359,	6424.03578,	3101.27174, E4 504	Unknown Casing	
1590,	1307.12239,	6319.72474,	3095.64374, W4039	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1591,	1342.39551,	6255.72993,	3083.67312, ----	Unknown Casing	
1592,	1388.09099,	6261.18137,	3074.05746, E4 218	Unknown Casing	
1593,	1107.68444,	6363.40416,	3093.90420, W4 214	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1595,	1106.13684,	6403.85683,	3114.74074, 190	Unknown Casing	
1596,	1115.26085,	6407.03405,	3117.85992, W215	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1600,	1089.15196,	6422.93614,	3120.41576, 209	Unknown Casing	
1602,	1080.10887,	6432.66401,	3122.77951, 212	Unknown Casing	
1603,	1078.98966,	6436.70883,	3124.12439, 211	Unknown Casing	
1604,	1079.84182,	6436.22755,	3123.87377, W4 201	.44L Rimfire Casing	
fired in Smith & Wesson 1 DS)					
1605,	1083.65343,	6435.17030,	3124.18127, 210	Unknown Casing	
1608,	1092.43466,	6431.67500,	3124.16861, 208	Unknown Casing	
1609,	1096.95422,	6431.60317,	3124.87504, 207	Unknown Casing	
1610,	1099.46437,	6431.42241,	3125.08757, 206	Unknown Casing	
1611,	1099.03243,	6428.10787,	3123.55063, 205	Unknown Casing	
1613,	1101.34174,	6424.92323,	3123.05375, 204	Unknown Casing	
1615,	1103.30684,	6405.44470,	3114.99133, 191	Unknown Casing	
1617,	1117.55208,	6419.46199,	3123.14093, 181	Unknown Casing	
1618,	1118.06573,	6419.81336,	3123.68077, W4 202	.44 Rimfire Casing	
fired in Henry or Winchester(66)21 (DS)					
1620,	1108.07579,	6428.22753,	3124.92549, 203	Unknown Casing	
1625,	1124.10650,	6416.91422,	3122.89847, 174	Unknown Casing	
1627,	1128.42563,	6413.04463,	3121.82523, 159/M7	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1628,	1129.82133,	6407.19307,	3119.82486, W4 215	.44 Rimfire Casing	
fired in a Henry or Winchester(66)					
1630,	759.42699,	6394.48371,	3119.07209, ----	Unknown Casing	
1631,	974.38137,	6282.36725,	3068.63744, ----	Unknown Casing	
1636,	1351.13888,	5484.30785,	3134.10854, ----	Unknown Casing	
1637,	1414.43651,	5403.91793,	3130.31789, ----	Unknown Casing	
1638,	1420.32420,	5401.32055,	3129.59188, ----	Unknown Casing	
1639,	1421.43959,	5398.52436,	3129.87080, ----	Unknown Casing	
1640,	1420.62603,	5410.51633,	3128.07688, ----	Unknown Casing	
1641,	1423.72497,	5413.56597,	3127.04869, ----	Unknown Casing	
1642,	1417.95646,	5437.67534,	3125.90005, ----	Unknown Casing	
1643,	1435.42616,	5411.30371,	3124.46816, ----	Unknown Casing	
1644,	1506.39502,	5427.27121,	3107.04143, ----	Unknown Casing	
1645,	1511.03889,	5462.59575,	3102.86265, ----	Unknown Casing	
1646,	1510.96692,	5462.47373,	3102.95094, ----	Unknown Casing	
1647,	1554.02049,	5462.88773,	3094.77483, ----	Unknown Casing	
1648,	1553.32143,	5463.01922,	3094.65419, ----	Unknown Casing	
1649,	1538.56156,	5556.37538,	3100.34992, ----	Unknown Casing	
1650,	1538.44147,	5556.88974,	3100.41678, ----	Unknown Casing	
1651,	1391.41999,	5546.12929,	3123.44290, E6 055	.56/50 Rimfire	
Casing					
(fired in Spencer(56-.50)3 (DS)					
1652,	1359.51042,	5555.16307,	3130.66471, U-7	.44 Rimfire Casing	
fired in Henry or Winchester(66)43 (DS)					
1653,	1354.26082,	5558.23100,	3131.74763, U-6	.44 Rimfire Casing	
fired in Henry or Winchester(66)43 (DS)					
1654,	1357.73473,	5567.33368,	3132.95837, U-5	.44 Rimfire Casing	
fired in Henry or Winchester(66)43 (DS)					
1655,	1355.81715,	5453.45511,	3133.11473, ---	Unknown Casing	
1656,	1375.89795,	5412.32808,	3129.50457, ---	Unknown Casing	

1657,	1409.97132,	5363.67251,	3125.64852, ---	Unknown	Casing
1658,	1411.46055,	5362.28061,	3125.31917, ---	Unknown	Casing
1659,	1413.45019,	5360.21205,	3125.37260, ---	Unknown	Casing
1660,	1419.79928,	5360.19796,	3126.84656, ---	Unknown	Casing
1661,	1418.95288,	5355.33282,	3125.39633, ---	Unknown	Casing
1662,	1417.86944,	5352.13050,	3124.46968, ---	Unknown	Casing
1663,	1429.23051,	5348.74877,	3126.56863, ---	Unknown	Casing
1664,	1432.85796,	5344.91026,	3126.24864, ---	Unknown	Casing
1665,	1452.35125,	5344.17546,	3127.75240, ---	Unknown	Casing
1666,	1459.22822,	5354.68613,	3130.13495, ---	Unknown	Casing
1667,	1466.33886,	5348.48201,	3128.24384, ---	Unknown	Casing
1668,	1473.90870,	5342.49486,	3125.78178, ---	Unknown	Casing
1669,	1471.89075,	5341.32021,	3125.64419, ---	Unknown	Casing
1670,	1481.39825,	5336.38575,	3122.76235, ---	Unknown	Casing
1671,	1488.45035,	5337.37124,	3121.98656, ---	Unknown	Casing
1672,	1492.44075,	5338.95869,	3121.75077, ---	Unknown	Casing
1673,	1463.08044,	5334.96208,	3124.49227, ---	Unknown	Casing
1674,	1462.21171,	5336.78593,	3125.00342, ---	Unknown	Casing
1675,	1460.07734,	5339.29365,	3126.15568, ---	Unknown	Casing
1676,	1461.91959,	5340.70551,	3126.26455, ---	Unknown	Casing
1677,	1428.76122,	5341.80274,	3124.08943, ---	Unknown	Casing
1678,	1416.39923,	5353.74231,	3124.32773, ---	Unknown	Casing
1679,	1417.29303,	5356.94901,	3125.53307, ---	Unknown	Casing
1680,	1417.83079,	5357.70838,	3125.76686, ---	Unknown	Casing
1681,	1421.97506,	5358.30177,	3127.01204, ---	Unknown	Casing
1682,	1411.54601,	5356.94166,	3123.75391, ---	Unknown	Casing
1683,	1411.47216,	5359.88732,	3124.62242, ---	Unknown	Casing
1684,	1406.51442,	5363.58995,	3124.23011, ---	Unknown	Casing
1685,	1401.85927,	5370.44462,	3124.98203, ---	Unknown	Casing
1686,	1403.32278,	5372.73304,	3125.72382, ---	Unknown	Casing
1687,	1399.92755,	5368.89152,	3123.82060, ---	Unknown	Casing
1688,	1398.35982,	5370.04511,	3123.55416, ---	Unknown	Casing
1689,	1389.37983,	5381.97884,	3124.75373, ---	Unknown	Casing
1690,	1431.15098,	5437.04054,	3122.23929, ---	Unknown	Casing
1691,	1443.06683,	5425.02389,	3120.35749, ---	Unknown	Casing
1692,	1427.37311,	5442.45687,	3122.84374, ---	Unknown	Casing
1693,	1394.99816,	5454.22062,	3129.82078, ---	Unknown	Casing
1694,	1396.34169,	5403.02099,	3131.13486, ---	Unknown	Casing
1695,	1372.45370,	5398.60459,	3125.40947, ---	Unknown	Casing
1696,	1349.94568,	5418.83550,	3127.10798, ---	Unknown	Casing
1697,	1343.47084,	5423.62782,	3127.88818, ---	Unknown	Casing
1698,	1341.44252,	5425.14700,	3128.23231, ---	Unknown	Casing
1699,	1343.88657,	5426.06892,	3128.75548, ---	Unknown	Casing
1700,	1346.25700,	5426.70154,	3128.94326, ---	Unknown	Casing
1701,	1340.91649,	5429.05122,	3129.19903, ---	Unknown	Casing
1702,	1340.59234,	5428.22220,	3128.94145, ---	Unknown	Casing
1703,	1339.75737,	5425.49910,	3128.07324, ---	Unknown	Casing
1704,	1341.74830,	5426.46965,	3128.51336, ---	Unknown	Casing
1705,	1469.84217,	5492.05282,	3108.81926, ---	Unknown	Casing
1706,	1509.16926,	5507.50275,	3103.38894, ---	Unknown	Casing
1707,	1509.12194,	5453.54017,	3103.79185, ---	Unknown	Casing
1708,	1210.42408,	6512.10562,	3064.26177, E4228	Unknown	Casing
1709,	1190.15657,	6460.95482,	3081.40868, E4219	Unknown	Casing
1710,	1163.32579,	6463.50703,	3087.77110, E4222	Unknown	Casing
1711,	1162.42019,	6522.39353,	3075.04666, E4223	Unknown	Casing
1712,	1117.47433,	6566.43976,	3078.73705, E4225	Unknown	Casing
1713,	1082.08533,	6601.40789,	3077.60358, W4500	Unknown	Casing
1714,	1073.80027,	6602.42559,	3078.10783, W4501	Unknown	Casing
1715,	1139.10794,	6590.93609,	3065.72190, E4227	Unknown	Casing

## j.) Artifact Identification

The artifacts uncovered at Baker’s Battleground on the Yellowstone have been carefully studied and categorized from the beginning of their discovery. Cross-referencing and identification was undertaken through the use of the following materials.

Barber, John L., *The Rimfire Cartridge in the United States and Canada 1857-1984*. (Tacoma, WA: Armory Press, Tacoma, 1987).

Barnes, Frank C., *Cartridges of the World 6th Edition* (Northbrook, Ill: DBI Books, 1989)

Barnes, Frank C., *Cartridges of the World 8th Edition* (Northbrook, Ill: DBI Books, 1997).

Coates, Earl J. and Dean S. Thomas, *An Introduction to Civil War Small Arms* (Gettysburg: Thomas Publications, 1990).

Hoyem, George A., 1981 *Historical Development of Small Arms Ammunition Vol. 4* (Tacoma, Washington: Armory Publications, 1981).

Logan, Herschal C., *Cartridges, A Pictorial Digest of Small Arms Ammunition* (New York: Bonanza Books, 1959).

Weibert, Don, *Custer, Cases & Cartridges: The Weibert Collection Analyzed*. University of Oklahoma Press, 1989).

Scott, Fox, Connor, and Harmon, *Archeological Perspectives on The Battle of the Little Bighorn* (University of Oklahoma Press, 1989).

McKee and Mason., *Civil War Projectiles II Small Arms & Field Artillery*. (Orange, Virginia: Publishers Press Inc., 1980).

McAuley, John D., *Carbines of the U.S. Cavalry 1861 – 1905. (Lincoln, Rhode Island: Andrew Mowbray Publishers, 1996).*

Prior to the grant, Civil War and Indian War enthusiasts proved insightful in the identification process. A valuable source of information regarding weapon and ammunition identification was John M. Hawkins. He was able to determine the make and model of the soldier weaponry through the use of reloading period weaponry (Springfield rifle model 1866, Springfield rifle model 1868, and Sharps Conversion Carbine). This was done by firing bullets from each of these types of weapons and carefully examined the spent cartridge casings, paying precise attention to the firing pin

and extractor pin marks. Through this process, it was determined that the four companies of the 7<sup>th</sup> Infantry were armed with Springfield model 1868 or 1870 rifles and the four companies of the 2<sup>nd</sup> Cavalry were armed with Sharps conversion carbines.

Supporting evidence for this proposal comes from the following reference: McCauley, *Carbines of the U.S. Cavalry 1861 – 1905*. This reference shows that by September of 1871, the 2<sup>nd</sup> U.S. Cavalry was armed with 766 Model 1868 Sharps Carbines and by June of 1872, the 2<sup>nd</sup> U.S. Cavalry was armed with 852 Model 1868 Sharps Carbines.

#### **k. Selective Analysis of Cartridge Casings and Bullets**

A study of the physical characteristics of the cartridge casings and bullets retrieved from Baker's Battlefield was completed on November 24, and December 16, 2000. A Dillon Precision Dial Caliper was used to measure the selected cartridge casings and bullets to determine if they matched those samples found in Barnes's, *Cartridges of the*



*World 8<sup>th</sup> Edition, Revised and Expanded*, and Logan's, *Cartridges - A Pictorial Digest of Small Arms Ammunition*.

**.50/70 Cartridge Casings:** (These cartridges represent the ammunition used by both the 2<sup>nd</sup> Cavalry and 7<sup>th</sup> Infantry soldiers during the fight on the Yellowstone. They were also used by the Sioux, Northern Cheyenne and Arapaho, although in less significant numbers.

Large numbers of .50/70 cartridge casings were found in the area of the cavalry and infantry skirmish line. These cartridge casings made up 90% of the artifacts found in the U.S. Army's area of occupation.

Smaller numbers of .50/70 cartridge casings were found in Indian Position # 1, 4, 6, and 7. These casings made up 6% of the cartridges found in the Indian positions. All of the .50/70's found in Indian Position # 1 were later found to probably belong to Captain Ball's troops occupying a skirmish line (*See Section VI subsection G, Captain Ball's Skirmish Line and Avenue of Approach*)

A small number of .50/70 cartridge casings were also found in Tracy's Landing and the camp site within its vicinity (used in the late 1870's and early 1880's). These cartridges were mixed with artifacts that post-date the battle, and cannot be considered related to the battle.

The standards of measurement used for the study of the .50/70 cartridge casings are found in Logan's, *Cartridges – A Pictorial Digest of Small Arms Ammunition*.

**.50/70 Bar Anvil (low Crimp) Cartridge and Bullet:** Total Length of Complete Bullet : 2 9/32 in., Overall Case Length: 1 ¾ in.(1.750 inch), Diameter at Rim: .564 in., Diameter at Mouth .541 in., Bullet Weight: 450 grains.

**.50/70 Benet Primed (high crimp) Cartridge and Bullet:** Total Length of Complete Bullet: 2 5/32 in., Overall Case Length: 1 ¾ in. (1.750 in.) Diameter at Rim: .564 in., Diameter at Mouth: .538 in., Bullet Weight: 450 grains.

**.50/70 Martin Primed Cartridge and Bullet:** Total Length of Complete Bullet: 2/ 9/32 in., Overall Case Length: 1 ¾ in. (1.750 in), Diameter at Rim .562 in., Diameter at Mouth: .530 in., Bullet Weight: 450 grains.

The following cartridge casings were carefully measured in order to determine that they were .50/70 design: MT BB INF 014, MT BB CAV AA81, MT BB SC 102E, MT BB 078, MT BB P2, and MT BB C3. When possible three measurements were taken and an average measurement was determined. The reason for taking an average is to attempt to compensate for damage to the cartridge casing.

**MT BB INF 014:** .50/70 cartridge casing (low crimp): Overall Casing Length (OCL): 1.783 inches, Diameter at Head (Base) - .554 inches, .579 inches, .571 inches, Avg. OCL: .568 inches. Diameter at Mouth (1/10<sup>th</sup> inch down on case) - .539 inches (narrowest), .554 wide, .544 –middle. Avg. Diameter at Mouth: .549 in. Note: This cartridge case was found in the Infantry position of the skirmish line at least 8 inches deep in moist soil, within the flood plane of the Yellowstone River. This cartridge case was found in good structural condition, maintaining its round form. However, the corrosion found on this and the majority of the artifacts found within the flood plane were severe.

MT BB INF 014 has a measurement within .033 inches of the standard measurement given by Logan (1.750). This casing has a Rim (Base) Diameter within .002 inches of

the standard measurement given by Logan (.564 inches). The Mouth Diameter is within .004 inches of the standard measurement given by Logan (.541 inches) Comparison of this casing to the standard measurements given by Barnes and Logan show strong consistencies despite the fact that this artifact lay beneath the surface and within the flood plane of the Yellowstone River for almost 130 years.

**MT BB CAV AA81:** .50/70 cartridge casing (high crimp): OCL: 1.763 inches, Diameter at Head .587 inches (widest), .576 inches (narrowest), .579 inches (middle), Avg. OCL: .581 inches. Diameter at Mouth (measurement taken 1/10<sup>th</sup> inch below head of casing): .537 inches (narrowest), .551 inches (widest), .545 (middle) Avg. Diameter at Mouth: .544 inches. This cartridge case was found in the cavalry position of the skirmish line at least 6 inches deep in moist soil within the flood plane of the Yellowstone River. The cartridge case was found in good structural condition, maintaining its round form. However, the corrosion found on this and the majority of the artifacts found within the flood plane were severe.

MT BB CAV AA81 has an OCL measurement within .013 inches of the standard measurement given by Logan. This casing has a Rim diameter within .016 inches of the standard Base (Rim) measurement given by Logan. This casing has a Mouth diameter with .006 inches of the standard measurement given by Logan. These are striking similarities in measurements considering the erosion of the artifact over the last 130 years. These measurements are consistent with those expected from a 50 caliber high crimp cartridge casing.

**MT BB SC 102E** .50/70 Unfired Bullet (low crimp): Overall Length (OL): 2.293 In. OCL: 1.774 in., 1.770 in., 1.773 in., Avg. OCL: 1.772 in. Diameter at Head: .567 in. (widest), .563 in. (narrowest), .564 in. (middle), Avg. Diameter at Head: .565 inches) Diameter at Mouth (1/10 inch down on case) - .546 in. (widest), .541 in.(narrowest), .545 in. (middle), Avg. Diameter at Mouth: .544 inches. This cartridge casing was found within the flood plane of the Yellowstone River. It shows the corrosion of numerous years of flooding and exposure to wet soil. However, its patina is more chocolate in color, rather than the green patina found in the above two .50/70 cartridge cases.

MT BB SC 102E has an OCL measurement within .022 inches of the standard measurement given by Logan. This casing has a Rim diameter within .001 inches of the standard measurement given by Logan. This casing has a Mouth diameter within .003 inches of the standard measurement given by Logan. These measurements are consistent of what is expected from a 50 caliber low-crimp cartridge casing.

**MT BB 078:** .50/70 Martin Primed Cartridge Casing: OCL:1.817 in., Diameter at Head: .574 inches, .571 inches, .573 inches, Avg. .573 inches Diameter at Mouth (1/10<sup>th</sup> inches down case) - .535 inches, .553 inches, .541 inches. Avg. 543 inches Note: This artifact is in good condition as it was found in Indian Position # 4 (bluffs) It's firing pin and

extractor markings suggest that it was fired in a Sharps carbine. *(See Annex A: Firearm Identification Process)*

MT BB 078 has an OCL measurement within .067 inches of the standard measurement given by Logan. This casing has a Rim Diameter within .010 inches of the standard measurement given by Logan. This casing has a Mouth Diameter within .013 inches of the standard measurement given. These measurements are consistent of what is expected from a 50 caliber Martin Primed cartridge casing.

**MT BB P2:** .50/70 Benet Primed Cartridge Casing (high crimp): OCL: 1.786 inches. 1.786 inches, Avg. OCL: 1.788 in., Diameter at Head: .579 inches, .572 inches, .575 inches, Avg. Diameter at Head: .575 in., Diameter at Mouth:(Badly Damaged), 2 narrow, and 2 wide readings) .456 in., .643 in., .483 in., .471 in.. Avg. Diameter at Mouth: .513 in. Note: This artifact is in good condition. It was found above the flood plane on the slope of Indian Position # 6. It's firing pin and extractor markings suggest that it was fired in a Sharps carbine. *(See Appendix A: Firearm Identification Process)*

MT BB P2 has an OCL measurement within .038 inches of the standard measurement. This casing has a Rim Diameter within .011 inches of the standard. It has a Mouth Diameter within .025 inches of the standard measurement. The significant discrepancy regarding the diameter of the mouth is due to the deformity of this artifact.

**MT BB C3:** .50/70 Bar Anvil Cartridge Casing (low-crimp): OCL (4 readings): 1.791 in., 1.792 in., 1.789 in., 1.794 in., Avg. OCL: 1.792 in. Diameter at Head: .579 in., .571 in., .577 in., Avg. Diameter at Head: .576 in. Diameter at Mouth: (This casing was badly damaged. Four readings were taken, 2 narrow and 2 wide.): .669 in., .417 in., .488 in., .464 in.. Avg. Diameter at Mouth: .510 in. Note: This artifact is in good condition. It was uncovered in the bluffs of Indian Position # 4. It's firing pin and extractor markings suggest that it was fired in a model 1866 Springfield rifle *(See Appendix A: Firearm Identification Process)*

MT BB C3 has an OCL measurement within .042 inches of the standard measurement. This casing has a Rim Diameter within .012 inches of the standard Rim measurement. This casing has a Mouth Diameter within .031 inches of the standard measurement The significant discrepancy regarding the diameter of the mouth is due to the deformity of this cartridge casing.

Bar Anvil .50/70 Cartridge Casings			
	Dia. Head	Dia. Mouth	OCL
Baseline	0.564	0.541	1.75
INF 014	0.568	0.549	1.78
			3

<b>MT C3</b>	0.576	0.510	1.79
			2

<b>Benet .50/70 Cartridge Casings</b>			
	<b>Dia. Head</b>	<b>Dia. Mouth</b>	<b>OCL</b>
<b>Baseline</b>	0.564	0.538	1.75
<b>AA81</b>	0.581	0.544	1.76
			3
<b>P2</b>	0.575	0.513	1.78
			6

<b>Martin .50/70 Cartridge Casings</b>			
	<b>Dia. Head</b>	<b>Dia. Mouth</b>	<b>OCL</b>
<b>Baseline</b>	0.562	0.53	1.75
<b>78</b>	0.573	0.543	1.81
			7

**Chart 1. Comparison of .50/70 Cartridge Casings Found at Baker's Battlefield to the Baseline** (measurement found in Logan's Cartridge Study).

**.44 Henry or Winchester Cartridge Casings:** The .44 caliber cartridge casings made up 72% of the cartridge cases found in the Indian positions. These casings were found in all the Indian positions. These cartridge cases were extracted by at least 44 Winchester or Henry model 1866 repeating rifles. These rifles held 16 cartridges, which provides insight as to why such a large number of these type of casings were found in the Indian positions in comparison to the other casing types found.

The measurement standards used for the .44 Henry cases studied are from Barnes' *Cartridges of the World 8<sup>th</sup> Edition, Revised and Expanded*. His standards:

.44 Henry Flat: Overall Case Length (OCL): .875 in., Diameter at Rim: .519 in. Diameter at Mouth: .445 in. See: *Cartridges of the World 8th Edition, Revised and Expanded* p. 394.

The following cartridge casings were carefully measured in order to determine that they were .44 design: MT BBK2, and MT BB S5. When possible three measurements were

taken and an average measurement was determined.

**MT BB K2:** .44 Cartridge Casing (no head stamp): OCL: (3 readings) 0.879 in., 0.88 in., 0.881 in., Avg. OCL: .880 in. Diameter at Head (Rim): 0.453 in., 0.454 in., 0.451 in., Avg. Diameter at Head: .453 in. Diameter at Mouth: 0.451 in., 0.441 in., 0.446 in., Avg. Diameter at Mouth: .446 in. Note: This cartridge found in the bluffs of Indian Position # 6 is in good condition overall condition and was able to be analyzed in the Firearms Identification Process. It was determined to be one of 10 cartridges fired in a specific rifle, Henry or Winchester rifle # 2. (*See Appendix A: Firearm Identification Process*).

MT BB K2 has an OCL measurement within .005 inches of the standard measurement given by Barnes. This casing has a Rim Diameter within .066 in. of the standard Base (Rim) measurement given by Barnes. This casing has a Mouth Diameter within .005 in. of the standard measurement.

**MT BB S5:** .44 Cartridge Casing (no head stamp): OCL: (3 readings) 0.834 in., 0.835 in., 0.833 in., Avg. OCL: .834 in. Diameter at Head (Rim): 0.451 in., 0.444 in., 0.448 in., Avg. Diameter at Head: .448 in. Diameter at Mouth: .468 in., .411 in., .441 in., .451 in., Avg. Diameter at Mouth: .443 in. Note: This cartridge found in Indian Position # 6 is in good condition and was able to be analyzed in the Firearm Identification Process. This casing was determined to be one of 3 cartridges fired in a specific rifle, Henry or Winchester rifle # 22. (*See Appendix A: Firearm Identification Process*)

MT BB S5 has an OCL measurement within .041 in. of the standard Measurement given by Barnes. This casing has a Rim Diameter within .071 in. of the standard Base (Rim) measurement given by Barnes. This casing has a Mouth Diameter within .002 inches of the standard measurement given by Barnes. The significant discrepancies of the diameter of the Rim and OCL are unknown.

<b>.44 Cartridge Casings</b>			
	<b>Dia. Head</b>	<b>Dia. Mouth</b>	<b>OCL</b>
<b>Baseline</b>	0.519	0.445	0.875
<b>K2</b>	0.453	0.446	0.88
<b>S5</b>	0.448	0.443	0.834

**Chart 2: Comparison of .44 Cartridge Casings Found at Baker's Battlefield to the baseline** (measurements found in Barnes study)

**.44 long Cartridge Case:** .44 long cartridge cases fired in Remington, Ballard, and Smith and Wesson firearms were found in significant numbers in the Indian positions. These cartridges made up approximately 15% of the Indian cartridge cases found at Baker's Battlefield.

The measurement standards used for the .44 long cases studied are from Barnes' *Cartridges of the World 8<sup>th</sup> Edition, Revised and Expanded*. His standards are as follow:  
.44 Long Cartridge Casing: OCL: 1.094 in., Diameter at Head .525 in., Diameter at Neck (Mouth): .455 in. *See: Cartridges of the World 8th Edition. p. 394*

The following cartridge casings were carefully measured in order to determine that they were .44 Long design: MT BB 55, MT BB 80 and MT BB B1A. When possible three measurements were taken and an average measurement was determined.

**MT BB 55:** .44 Long Cartridge Casing: OCL: (three readings) 0.975 in., 0.976 in., 0.971 in., Avg. OCL: .974 in. Diameter at Head: 0.452 in., 0.446 in., 0.445 in., Avg. Diameter at Head: .448 in. in., Diameter at Mouth: 0.450 in., 0.428 in., 0.438 in. Avg. Diameter at Mouth: 439 in. Note: This casing found in Indian Position # 4 is in good condition and was able to be accurately analyzed in the Firearm Identification Process. It was determined to be one of 10 cartridge cases fired in a specific revolver, Remington # 1. (*See Appendix A: Firearm Identification Process*)

MT BB 55 has an OCL measurement within .120 in. of the standard measurement given by Barnes. This casing has a Rim Diameter within .037 in. of the standard Base (Rim) measurement.. This casing has a Mouth Diameter within .016 in. of the standard measurement.

**MT BB 80:** .44 Long Cartridge Casing: OCL: (3 readings) 0.960 in., 0.965 in., 0.962 in., Avg. OCL: .962 in. Diameter at Head: 0.448 in., 0.436 in., 0.444 in., Avg. Diameter at Head: .443 in. Diameter at Mouth: 0.507 in., 0.479 in., 0.433 in., Avg. Diameter at Mouth: .473 in. Note: This cartridge found in Indian Position # 6 is in good condition.

The clarity of the rim allowed for measurement of other cartridge characteristics: Width of Firing Pin Mark: 0.059 in., Diameter of Bolt Impression (circle): 0.185 in. Every quarter turn on the shell casing revealed a slight manufacture line or groove, running the entire length of the casing. There is also a circular indentation near the center of the rim itself. This casing was subjected to the Firearm Identification Process. It was determined to be one of 4 cartridge cases fired from a specific rifle, Ballard single-shot rifle # 2). (See Appendix A: Firearm Identification Process)

MT BB 80 has an OCL measurement within .132 inches of the standard measurement given by Barnes. This casing has a Rim Diameter within .082 in. of the standard Base (Rim) measurement given by Barnes. This casing has a Mouth Diameter within .018 in. of the standard measurement.

**MT BB B1A:** .44 Long Cartridge Casing: OCL: 0.967 in., 0.956 in., 0.966 in., Avg. OCL: .963 in. Diameter at Head: 0.465 in., 0.437 in., 0.456 in., Avg. Diameter at Head: .453 in. Diameter at Mouth: (2 readings) 0.617 in., 0.215 in., Avg. Diameter at Mouth: .416 in. Note: The clarity of the rim allowed for the measurement of other cartridge characteristics: Width of Firing Pin Mark: 0.063 in. Diameter of Bolt Impression on Rim of Casing: 0.185 in. The difference in width of firing pin marks as compared to MT BB 80 suggests that this casing was fired from a different rifle. The circle (bolt impression) on the rim of the casing is the same diameter of that on MT BB 80 which suggests that both these casings were fired from the same style of weapon. This casing was subject to the Firearm Identification Process. It was determined to be one of 4 cartridge cases fired in a specific rifle, Ballard single-shot rifle # 2 located in Indian Position # 6. This was the same weapon that fired MT-BB- 80. (See Appendix A: Firearm Identification Process)

MT BB B1A has an OCL measurement within .149 in. of the standard measurement given by Barnes. This casing has a Rim Diameter within .072 in. of the standard Base (Rim) measurement given by Logan. This casing has a Mouth Diameter that is too badly deformed to be accurately measured.

<b>.44 Long Cartridge Casings</b>			
	<b>Dia. Head</b>	<b>Dia. Mouth</b>	<b>OCL</b>
<b>Baseline</b>	0.525	0.455	1.09 4
<b>55</b>	0.448	0.439	0.97 4
<b>80</b>	0.443	0.473	0.96 2



<b>B1A</b>	0.453	Deformed	0.96 3
------------	-------	----------	-----------

**Chart 3: .44L Cartridge Casings found at Baker's Battlefield compared to Baseline** (measurements found in Barnes Study)

**Spencer Casings:** The Spencer casings uncovered at the Baker Battlefield were found in the soldier campsite as well as the major Indian positions (Indian Position's # 4 and 6). The Spencer casings found in the Indian Positions made up 5% of the cartridge cases found used in the Indian areas of occupation. The Spencer casings found in the Soldier Positions made up 2% of the cartridge casings found there.

The standard measurements used for Spencer casings are found in Barnes's, *Cartridges of the World 8<sup>th</sup> Edition, Revised and Expanded*. For this study, OCL, Rim Diameter, and Mouth Diameter measurements will be compared to Barnes's standards.

56-50 Spencer: OCL: 1.156 in., Diameter at Neck (Mouth) .543 in., Diameter at Rim: .639 in.

56-56 Spencer Casing: OCL: .875 in., Diameter at Neck (Mouth): .560 in. Diameter at Rim: .645 in.

The following .56/56 Spencer cartridge casings were carefully measured in order to verify that they are Spencer design: MT BB A2/095, and A1/097. When possible three measurements were taken and an average measurement was determined.

**MT BB A2/095:** .56/56 Cartridge Casing: OCL: .947 in., .951 in., .948 in., Avg. OCL: .949 in., Diameter at Head (Base): .565 in., .571 in., .573 in. Avg. Diameter at Head: .570 in., Diameter at Mouth: .559 in., .547 in., .556 in., Avg. Diameter at Mouth: .554 in. Notes: There is scoring lengthwise on the brass, which may show how rough the carbine chamber was. This cartridge casing is in good condition and was subjected to the Firearms Identification Process. This cartridge was fired in a specific Spencer carbine. (Spencer carbine # 1, used at Indian Position # 4. (*See Appendix A: Firearm Identification Process.*

MT BB A2/095 has an OCL within .074 in. of the standard used by Barnes. This casing has a Diameter at Head within .073 in. of Barnes's standard. It has a Diameter at Mouth within .006 in. of the standard.

**MT BB A1/097:** .56/56 Cartridge Casing: OCL: .966 in., .965 in., .964 in., Avg. OCL: .965 in. Diameter at Head: (2 measurements) .572 in., .573 in., Avg. .573 in. Diameter at Mouth: .559 in., .542 in., .556 in., Avg. Diameter at Mouth: .552 in. Notes: The deep scoring marks shown on A2 are not as apparent on this cartridge case. This cartridge casing is in good condition and was subjected to the Firearm Identification Process. It was fired in a specific weapon, Spencer carbine # 1 in Indian Position # 4. (See Appendix A: Firearm Identification Process)

MT BB A1/097 has an OCL within .090 in. of the standard used by Barnes. This casing has a Diameter at Head within .072 in. of Barnes's standard. It has a Diameter at Mouth within .008 in. of the standard.

Spencer .56/56 Cartridge Casings			
	Dia. Head	Dia. Mouth	OCL
Baseline	0.645	0.56	0.875
A2/095	0.572	0.554	0.949
A1/097	0.573	0.552	0.965

**Chart 4: Comparison of Spencer .56/56 Cartridge Casings to baseline** (measurements found in Barnes study)

The following .56/50 Spencer cartridge casings were carefully measured in order to verify that they are Spencer design: MT BB 53, and MT BB A9. When possible three measurements were taken and an average measurement was determined.

**MT BB 53:** .56/50 Cartridge Casing: OCL: 1.183 in., 1.188 in., 1.176 in. Avg. OCL: 1.82 in. Diameter at Head: (2 measurements) .568 in., .578 in., Avg. Diameter at Head: .573 in. Diameter at Mouth: .740 in., .359 in., .345 in., .347 inches. Avg. Diameter at Mouth: .448 in. Note: The mouth of this cartridge casing is extremely deformed, which constitutes the great variance of any reading at the mouth. This cartridge casing was in good condition, and was subjected to the Firearm Identification Process. It was fired in Spencer Carbine # 1 in Indian Position # 4. (See Appendix A: Firearm Identification Process).

MT BB 53 has an OCL within .664 inches of the standard used by Barnes. This casing has a Diameter at Head within .066 in. of Barnes's standard. It has a Diameter at Mouth within .095 in. of the standard.

**MT BB A9:** .56/50 Cartridge Casing - OCL – 1.159 in., 1.144 in., 1.153 in., Avg. OCL: 1.152 in. Diameter at Head: .577 in., .569 in., Avg. Diameter at Head: .573 in. Diameter at Mouth: .741 in., .271 in., .259 in., .262 inches. Notes: The mouth of this cartridge casing is extremely deformed, which constitutes the great variance and lack of validity of any reading at the mouth. This cartridge casing uncovered in Indian Position # 4 is in good condition, but was not included in the Firearm Identification Process.

MT BB A9 has an OCL within .004 in. of the standard used by Barnes. This casing has a Diameter at Head within .066 in. of Barnes standard. This casing has a Diameter at Mouth which is too deformed to determine with any degree of accuracy.

Spencer .56/50 Cartridge Casings			
	Dia. Head	Dia. Mouth	OCL
Baseline	0.639	0.543	1.156
53	0.573	0.448	1.82
A9	0.573	Deformed	1.159

**Chart 5: Spencer .56/50 Cartridge Casings found at Baker's Battlefield compared to baseline** (measurement found in Barnes study)

**Bullet / Ball Analysis:** A wide variety of bullets and round balls were found at Baker's Battlefield on the Yellowstone. These bullets and round balls ranged from .36 to .58 caliber. The majority of these being .44 and .50 caliber bullets.

The standard of measurement for Diameter of Bullets and Round Balls is Barnes, *Cartridges of the World 8<sup>th</sup> Edition, Revised and Expanded* and Weight of Bullets and Round Balls is Logan, *Cartridges – a Pictorial Digest of Small Arms Ammunition*;

Diameter of .44 caliber bullet: .446 inches: *Barnes p. 394*

Weight of .44 caliber bullet: 200 grains: *Logan p. 68*

Diameter of .50 caliber bullet: .512 inches: *Barnes p. 394*

Weight of .50 caliber bullet: 450 grains: *Logan, p.97*

The following Bullets and Round Balls were measured in order to verify that they are .44 caliber design: MT BB A14, and MT BB AA27. When possible three measurements were taken and an average measurement was determined.

**MT BB A14:** .44 Bullet: Weight: 235.7 grains. Diameter: (Base of the bullet .435 inches), .425 inches, .426 inches Avg. Diameter: .429 in. Overall Length - .667 in., .660 in., .662 in. Note: There are four lube rings present. In addition 5 Lands and 5 grooves are clearly present on this bullet.

MT BB A14 is within 35.7 grains for the expected weight of a .44 caliber bullet. This bullet is within .017 inches of the expected diameter of a .44-caliber bullet. These measurements are within the expected norm of a .44-caliber bullet.

**MT BB AA27:** .44 Bullet: Weight: 196 grains. Diameter: (Base of the bullet .440 in.), .431 in., .432 in. Avg. Diameter: .434 in. Note: There are two lube rings present. Five Lands and five Grooves are also present on this bullet. The tip of the bullet is deformed. This bullet was subjected to the Firearms Identification Process and determined to have been fired from a Henry or Winchester model 1866 rifle or possibly one of the post-1873 models. (See Appendix A: Firearm Identification Process)

MT BB AA27 has a weight that is within 4 grains from the expected weight of a .44 caliber bullet. This bullet has a diameter that is within .012 in. of the expected diameter of a .44 caliber bullet. These measurements are within the expected norm of a .44 caliber bullet.

<b>.44 Bullets</b>		
	<b>Weight</b>	<b>Diameter</b>
<b>Baseline</b>	200 grs.	0.446

<b>A14</b>	236 grs.	0.429
<b>AA27</b>	186 grs.	0.434

**Chart 6: Comparison of .44 Bullets found at Baker's Battlefield to baseline.** (measurements found in Barnes and Logan's studies)

The following Bullets and Round Balls were measured in order to verify that they are .44 caliber design: MT BB AA15, MT BB AA69, and MT BB AA66. When possible three measurements were taken and an average measurement was determined.

**MT BB AA15:** .50 Bullet: Weight: 447.8 grains. Diameter: (Base of the bullet .516 inches), .509 inches, .513 inches, .507 inches Avg. .511 inches Overall Length of bullet: .963 in., .962 in., .971 in. Note: Three lube rings are present. Three Lands and three grooves are also visible. This bullet was subjected to the Firearms Identification Process and it was determined that this bullet was fired from a Springfield rifle. (*See Appendix A: Firearm Identification Process*)

MT BB AA15 is within 2.2 grains of the expected weight of a .50 caliber bullet and within .00075 in. from the expected diameter of a .50 caliber bullet. These measurements are within acceptable limits of a .50-caliber bullet.

<b>.50 Bullets</b>		
	<b>Weight</b>	<b>Diameter</b>
<b>Baseline</b>	450 grs.	0.512
<b>AA15</b>	448 grs.	0.512

**Chart 7: .50 Bullet found at Baker's Battlefield compared to baseline** (measurements found in Barnes's and Logan's studies)

**MT BB AA69:** .44 Round Ball: Weight: 128.8 grains. Diameter: (screw pointing up) .441 in., .441 in., .442 in., Avg. Diameter: .441 in. Note: This was a dropped .44 round ball found in Indian Position # 6.

**MT BB AA66:** .50 Round Ball: Weight: 228.8 grains. Diameter: (screw pointing up) .537 inches, .526 inches, .541 inches, Average Diameter: .535 in.

**MT-BB-P4:** Unknown Bullet: Weight: 204.9 grains. Diameter:(Base of the Bullet: .391 in.), .399 in., .390 in. Avg. Diameter: .393 in. Overall Length could not be calculated due to deformity. There are two lube rings visible. Too many rifling marks are visible to accurately count them. These rifling marks are too shallow to take an

accurate measurement with the present measuring equipment. A significant amount of lead is missing from the nose of the bullet.

## **1. Weapons and Ammunition Used at Baker's Battle on the Yellowstone**

### **1. Weapons and Ammunition Used by Soldiers and Civilians**

Through careful study of the battle, related artifacts, and archival research, the principal investigators have verified that the soldiers at Baker's Battle on the Yellowstone River were armed with Springfield rifles and Sharps conversion carbines.

The civilians who accompanied the expedition were armed with a variety of weapons; Few casing samples were discovered that were fired in non-Springfield or Sharps firearms. Due to disturbance of the battle site, significant depth of the artifacts and visits by hunters (both white and Native American), the civilian weaponry remains speculative.

This section breaks down the military firearms and known cartridge ammunition used by the soldiers in the battle on the Yellowstone River.

**a. Sharps Carbines ( .50/70 Cartridge Casing):**

Companies 'F', 'G', 'H', and 'L' of the 2nd Cavalry were armed with the model 1868 Sharps Carbine which fired a .50 caliber bullet.<sup>1</sup> The following paragraphs describe the brief history of the use of the .50/70 government cartridge.

On November 2, 1867 the Sharps Rifle Mfg. Co. entered into an agreement to alter all the percussion Sharps in the government arsenals to the center fire .50-70 cartridge. All carbines with barrel diameters of over .5225 inches were sent to the Springfield Armory to have a barrel liner inserted.<sup>2</sup>

The .50-70 Government cartridge was replaced by the .45 caliber bullet in 1873 and mass produced for the Springfield Trapdoor rifles and carbines in early 1874.<sup>3</sup>



**Figure 1:** Side view of a .50/70 cartridge casing found in the skirmish line on the portion of the battlefield predominantly occupied by the 2<sup>nd</sup> Cavalry.

**b. Springfield Rifle Model 1866, 1868, 1870 (.50/70 Cartridge Casing):**

Companies 'C', 'E', 'G' and 'I' of the 7<sup>th</sup> Infantry were armed with model 1866, 1868 or 1870 Springfield rifles. These weapons fired the .50/70 cartridge bullet. Few of the casings found in the slough area could be analyzed by Douglas Scott, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana, July 22, 2001*. MT BB AA82 and M TBB AA1, 50/70 cartridge casings were subjected to the Firearms Identification and were identified as being fired in 1868 or 1870 Springfield rifles (see Appendix A). It is possible that the infantry present at Baker's Battle were armed with all three models. However, all samples fired from model 1866 Springfield rifles were found in the Indian positions in the bluffs.



The Model 1866 rifle was a simplified version of the 1865 pattern, chambering a new inside-primed .50-70 centerfire cartridge. A 'U'-spring extractor had replaced the flimsy ratchet mechanism of the original gun, and the original .58-caliber barrels had been reamed-out to .64 to take a .50-calibre lining tube. This method, suggested by Brevet-Colonel Theodore Laidley, was rapidly perfected in the Springfield factory and an order was given on 26 July 1866 to convert 25,000 rifle-muskets, half of them with varnished stocks and the remainder left plain.<sup>4</sup>

Then 1866-pattern Allin conversions, despite their shortcomings, came as a revelation to men used to nothing but muzzleloaders. A Board of Officers convened in 1868 to examine rifle requirements of Company commanders shows that the Trapdoor Springfield is considered a very powerful, accurate, and serviceable Infantry arm. Few serious flaws had been reported in the breech mechanism, and the barrel-lining system had proven to be much more successful than its detractors had predicted.<sup>5</sup>

The worst of the problems related to the original inside-primed cartridges, which jammed too regularly, could not be reloaded, and were prone to rupture owing to the absence of reinforcement in the case-head compared with the walls. The drawbacks of the regulation ammunition were clearly shown in the trials of 1872 – 73, culminating in the adoption of the .45-70 M1873 rifle, where many rival guns performed better with commercial drawn-brass ammunition than with army-type copper-case patterns. Copper lacked the ability of brass to expand momentarily to seal the breech, then contract just as quickly to permit extraction.<sup>6</sup>

Changes made in the Model 1868 rifle included the approval of a new 36-inch barrel, retaining the 1866-type rifling – three .0075 grooves making a clockwise turn in 42 in. Two barrel bands were used instead of three, a special long-range back sight was developed, and a new short ramrod was held by a stop in the stock which bore on a shoulder about four inches from the rod-tip. The most obvious change, however, concerned the separate receiver. Two-part construction of this type was much stronger than simply cutting a seat for the breech block into the original barrel.<sup>7</sup>

The Model 1870 rifle was identical to its immediate predecessor, except that the receiver was shortened. The breech block was partially cut away behind the hinge, opening farther to prevent unexpected closure as a cartridge was being inserted. A double shoulder was added on the ramrod, and the sights were refined in detail.<sup>8</sup>

However, aware that experiments were undertaken with small-calibre cartridges, the Ordnance Department sanctioned production few M1870 rifles. They are now sometimes considered to be experimental, instead of a regulation design. The Model 1870 Carbine was built on the same action as the Model 1870 rifle, but was greatly shortened.<sup>9</sup>



**Figure 1.** Side view of a .50/70 cartridge casing used at the Baker Battle.

## **2. Weapons and Ammunition Used by the Sioux, Northern Cheyenne and Arapaho**

Douglas Scott, Technical Advisor to the Association of Firearms and Toolmark Examiners Forensic and Archeological Services Lincoln, Nebraska has been able to determine a portion of the weapons used by the Sioux, Northern Cheyenne and Arapaho at Baker's Battle on the Yellowstone River, August 14, 1872 through a process known as Firearm Identification. Through detailed study of the cartridge cases, including microscopic study of firing pin and extractor markings, the following list of weapons has been produced by Douglas Scott regarding the weapons used by the Indians at Baker's Battle on the Yellowstone: 44 Henry or model 1866 Winchesters (78 cases too oxidized to determine specific weapon), 1 Remington, 1 Smith and Wesson, 7 Ballards (9 cases not analyzed), 10 Sharps, 5 1866 Springfields, and 1 1868 or 1870 Springfield.<sup>10</sup> (Note 2 additional model 1868 or 1870 Springfield cartridge casings were found in the soldier positions and can be assumed to be of soldier use.). 8 .56/56 Spencers, and 3 .56/50 Spencers. A total of 80 identified distinct weapons used by the warriors were found to be at Baker's Battle on the Yellowstone.

### **a. The model 1866 Henry and Winchester Repeating Rifle (.44 Henry Cartridge Casing):**

The most prevalent ammunition type found in the Indian positions at Baker's Battleground on the Yellowstone River was the .44 Henry / Winchester cartridge casing. Following a comparison microscope study of the cartridge cases, it has been determined that at least 44 different Henry or model 1866 Winchesters were used in the battle. This does not include 74 casings that were too oxidized to determine weapon usage. The Henry and Winchester casings made up 72% (271 of 378 total number of casings found) of the total found in the Indian positions. The main reason for the pervasive numbers of

Henry / Winchester casings are due to the nature of the weapons that fired this cartridge.

The Model 1866 Henry / Winchester rifles fired 16 rounds prior to reloading. This characteristic made these rifles extremely popular among whites and Indians alike.

### **Concise History of the Henry and Winchester model 1866 Repeating Rifle and .44 Henry cartridge**

The Henry rifle, which used the .44 Henry Flat cartridge was patented by B. Tyler Henry on October 16, 1860 with U.S. Patent No. 30,446.<sup>11</sup>

The .44 caliber rimfire ammunition manufactured at the New Haven Arms Company were stamped on the head of the cartridge “H” (for Henry). The cartridge became known as the Henry .44 Flat. This cartridge held twenty-five grains of black powder, giving its two hundred sixteen-grain bullet a muzzle velocity of 1125 f. p. s (feet per second). The overall length of the case was eighty-five hundredth inch.<sup>12</sup>

According to McDowell, author of *Development of The Henry Cartridge and Self-contained cartridges for the Toggle-Link Winchester*, this cartridge was produced by many different manufacturers, and variations in case dimensions, projectile shapes, and grease grooves are often encountered.<sup>13</sup>

The first Henry cartridges manufactured by the New Haven Arms Company, the producer of the Henry Rifle had a copper case measuring 0.82 inches long and a round nose lead projectile measuring 0.443 inches in diameter and weighing 210 grains. The black powder charge weighed only 25 Grains, and the total length of the assembled cartridge was 1.363 inches. The cartridge was then modified in 1862, to become known as the “HENRY FLAT”.<sup>14</sup>

The first New Haven Henry cartridge was unmarked, while the “Henry Flat” contained a head stamp in the form of a raised “H” in a centrally located recessed circle. The copper case remained 0.82 inches long and the projectile maintained the earlier diameter of 0.443 inches. The black powder charge remained at 25 . The black powder charge remained at 25 Grains, but the projectile weight was increased to 216 Grains. Due to the flat nose of the projectile, the overall length of the “Henry Flat” was slightly reduced to 1.356 inches.<sup>15</sup>

Other Henry cartridges illustrated are of the various manufactures with case lengths varying from 0.82 inches to 0.9 inches, projectile diameters varying from 0.438 inches to 0.445 inches and overall lengths varying from 1.27 inches to 1.363 inches. Black powder charges remained relatively constant (25 Grains), while projectile weights varied only between 200 Grains and 216 Grains.<sup>16</sup>

Both the Henry rifle and the Model 1866 Winchester repeater experienced tremendous success. The new rim-fire self-contained metallic cartridge and Henry’s new cartridge extractor design rendered both arms as rapid-fire repeaters, with little possibility of jamming, due to the lack of positive cartridge extraction and ejection. Firepower (striking force) had certainly been increased, as compared to the earlier repeaters, and the problem of escaping gases was a thing of the past.<sup>17</sup>

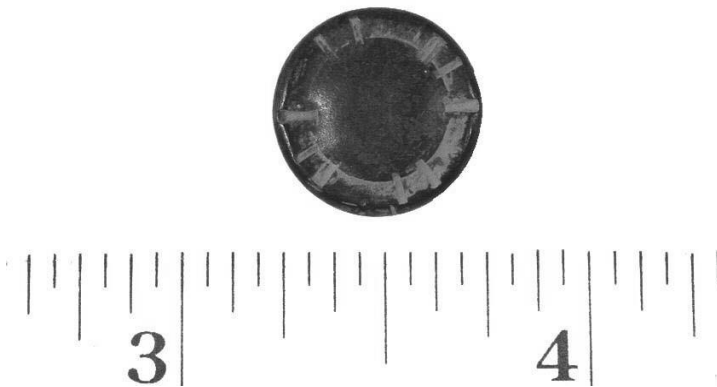
The .44 rimfire casings subject to selective analysis are consistent with McAulay's measurement. MT-BB-K2 has an overall cartridge length of 0.880 inches. MT-BB-S5 has an overall cartridge length of 0.834 inches. MT-BB-A14, a "Henry" bullet weighed 235.7 grains. The bullet's diameter at the base of the bullet was 0.429 inches. The overall length of the bullet measured 0.663 inches. MT BB AA27, a .44 caliber bullet weighed 196 grains. This bullet's diameter at the base of the bullet was 0.434 inches. Both of these bullets are similar in grain weight to McAulay's statement and have the appropriate lands and grooves to be fired from either a Henry or Winchester model 1866 repeating rifle, or possibly, a model 1873 repeating rifle.<sup>18</sup>



**Figure 1:** A .44 Caliber cartridge "Henry" Casing fired from a Model 1866 Winchester or Henry repeating rifle.



**Figure 2:** “Henry” Headstamp and firing pin markings on a cartridge casing fired from a Model 1866 Winchester or Henry rifle.



**Figure 3:** A “Henry” .44 cartridge casing showing numerous firing pin marks. Note that the Henry double firing pins strike both sides of the rim upon impact. This cartridge shows 5 strikes from the firing pin.



**Figure 4:** A .44 Caliber cartridge “Henry” Casing fired from a Model 1866 Winchester or Henry repeating rifle. This casing has the no headstamp.

**b. Remington Rifles (.44 Long Cartridge Casing):**

There were a considerable number of .44 Long cartridge cases found at Baker’s Battlefield. These cartridges were undoubtedly fired from at least one rifle (Remington rifle # 1 which fired MT-BB-55E, MT-BB-56E, MT-BB-4B, MT-BB-W6, MT-BB-4C, MT-BB-W7, MT-BB-2G, and MT-BB-W4-036). In addition to the above casings numerous other casings fired from Remington rifles were found on the battlefield in Indian Positions # 4 and # 6, which suggest a strong probability of more than one Remington rifle being present at the battle.<sup>19</sup>

**Concise History of the Remington .44 caliber carbine or rifle:**

The .44 Long cartridge cases fired from the Remington were found at a great distance from the soldier positions. There was approximately 500 feet distance from the Indian position to the soldier skirmish line. Due to this significant distance it is questionable that a revolver was used to fire the cartridges. McCauley, author of *Carbines of the U.S Cavalry 1861 – 1905*, states that E. Remington & Sons and their agent Samuel Norris of Springfield, Massachusetts, were granted contracts for 15,000 Remington Carbines in .50 caliber and 5,000 in .44 caliber, which were later changed to .46 caliber.<sup>20</sup>

“Could these cartridges have been early Remington’s that were not converted to .46 caliber. In 1864.”<sup>21</sup>

Barber notes that the .44 Long originated with the Ethan Allen Carbine patented in 1860 and was manufactured by Allen and Wheelock or Wocheater, Mass. It was later adapted to rifles made by Ballard, Howard, Remington, Robinson and F. Wesson.<sup>22</sup>



**Figure 1.** Cartridge Casing fired from a Remington firearm at Baker's Battle.



**Figure 2.** Firing pin impression made by a Remington Firearm.

**c. Smith and Wesson American Pistol (.44 Long Cartridge Casing):**



There was one Smith and Wesson firearm identified as being used at the Baker Battle on the Yellowstone Site. Eight cartridge cases have been identified as fired from this firearm.<sup>23</sup>

### **Concise History of the Smith and Wesson firearm**

The first top-break Smith & Wesson revolver, with the hinge moved to the bottom front of the frame, appeared in 1868. A sturdy latch lay ahead of the hammer, while the new star-plate extractor was attached to a hollow central tube containing a rack mechanism. This extracted spent cartridge cases when the barrel was depressed, enabling them to be shaken free. At the time of the opening stroke, the extractor snapped back into place to allow the gun to be reloaded. The Smith and Wesson chambered the .44 Long rim fire cartridge<sup>24</sup>



**Figure 1.** Firing pin impression from a Smith and Wesson Firearm.

#### **d. The Ballard Rifle (.44 Long Cartridge Casing):**

The Ballard single-shot rifle was used by at least 7 warriors in the fight against Major Baker's soldiers on the Yellowstone River. Firearm Investigation showed that there were at least 28 cartridge cases fired from Ballard rifles during this fight.<sup>25</sup>

### **Concise History of the Ballard Rifle**

The inventor of the single shot rimfire Ballard rifle was Charles Henry Ballard of Worcester, Massachusetts. Seven months after the outbreak of the Civil War, Charles H. Ballard was granted U.S. Patent # 33,631 of November 18, 1861.<sup>26</sup>

The first advertisement placed for the Ballard Rifle appeared in the March 29, 1862 issue of Harpers Weekly. This ad stated that the seven pound Ballard rifle was available in calibers .32, .38, .44 and came with a twenty-four inch barrel.<sup>27</sup>

A later patent was granted to Joseph Merwin and Edward P. Bray of New York City which allowed the Ballard to use a dual ignition system. In this case, the Ballard could use loose powder and ball with the percussion cap when rimfire cartridges were unavailable - Messrs. Merwin and Bray's U.S. Patent No. 41,166 of January, 1864.<sup>28</sup>

In January, 1864, Ball and Williams of Worcester, Massachusetts had taken over the manufacturing of the Ballards after Merwin & Bray had discontinued subcontracting with Dwight, Chapin & CO. due to their poor performance.<sup>29</sup>

Ballard Military rifles are found in .56, .46, and .44 caliber rimfire. The overall length of these rifles are forty-five and one-half inches and weigh eight pounds five ounces. The thirty-inch blued or browned barrel is held to the forestock by three solid, casehardened oval barrel bands. The barrel has a blade front sight and the rear sight is a single-leaf folding type with adjustable slide, graduated to five hundred yards. A sling swivel is found under the butt stock and on the center barrel band.<sup>30</sup>

The distinctive single-shot dropping-block rifles and carbines protected by a patent granted in November 1861 (33,361) to Charles Ballard of Worcester, Massachusetts, had very little significance on the Civil War. However, they were destined to be made long after many of their contemporaries had been forgotten.<sup>31</sup>

The earliest Ballards, made by Ball & Williams, were enthusiastically promoted by Merwin & Bray of New York. The breechblock contained the hammer and trigger mechanism, automatically dropping the hammer to half cock as the action opened. Originally designed to chamber rimfire ammunition, the guns made for the Federal government incorporated a supplementary cap lock ignition system patented by Joseph Merwin & Edward Bray in January 1864 (US no. 41,166).<sup>32</sup>

Seemingly a backward step, the cap-lock adaptor proved to be useful when metal-case ammunition ran short. Placing a nipple in the block below the hammer nose allowed a percussion cap to be fired as the neck fell. Combustible cartridges or loose powder-and-ball could be used in

emergencies, though the breech was far from gas-tight. Alternately, a hole could be bored in the base of a spent Ballard rimfire cartridge loaded with fresh powder and a new bullet. Firing the gun in this way allowed the brass case to expand to seal the breech.<sup>33</sup>

Perfected Ballard rifles, made by Ball & Williams of Worcester, Mass., in .44 or .54 cartridges, the carbines had 20-inch barrels and measured 37.25 in overall. Wooden fore-ends retained by a single barrel band were standard, often with a swivel under the band; a second swivel lay beneath the butt.<sup>34</sup>

The Ballard rifle like it's contemporaries the Remington and Smith and Wesson also chambers the .44 Long cartridge.<sup>35</sup>



**Figure 1.** Firing pin impression made by a Ballard rifle.

**e. Spencer Carbine (56/50 and 56/56 Cartridge Casings):**

The Spencer carbine was one of the more pervasive weapons used by the Indians when attacking the soldiers on the Yellowstone on August 14th of 1872. The Indians saw the firepower of these weapons first hand as early as December 1866, when they fought with the 2<sup>nd</sup> cavalry and 18<sup>th</sup> Infantry on “Fetterman” Hill, near Fort Phil Kearney. There is also the possibility that some of the Spencers used by the Sioux and their allies on the Yellowstone could have come from the Fetterman Battle. Doug Scott positively identified 12 Spencer carbines used by the Indians at Baker’s Battle, August 14, 1872.<sup>36</sup>

## Concise History of the Spencer and related ammunition:

The Spencer was the first truly successful repeating rifle to use a metallic cartridge. The inventor, Christopher Miner Spencer was born in South Manchester, Connecticut on June 20, 1833. In 1858, he conceived his idea for a repeating rifle, but it was not until 1859 that he successfully completed his basic design. In 1859 and 1860, Spencer and Luke Wheelock made at least twenty-eight Spencer carbines and rifles in .50 and .44 caliber using the factories of the Cheney Brothers Plant in Hartford, Connecticut.<sup>37</sup>

Christopher Spencer received his original patent, No. 27,393, for his rifle design on March 6, 1860. Two years later on July 29, 1862, Spencer received U.S. Patent No. 36,062 for an improved cartridge-retractor for breech-loading firearms. ... The tubular magazine for feeding the rimfire cartridge to the receiver is located in the butt stock. This tubular magazine holds seven rimfire cartridges and works with a coil spring.<sup>38</sup>

The first cartridge made for the Spencer rifle or carbine was the .56-56 rimfire cartridge casing. This was the original cartridge made for the Spencer rifle and carbine, patented March 6, 1860 and manufactured in quantity beginning in 1862.<sup>39</sup>

This casing had some significant problems such as too much exposure to its grease grooves and less powerful powder charge.<sup>40</sup>

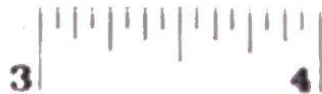
The more successful .56-52 Spencer casing during the last years of the Civil War replaced this first version, the .56-56 rimfire cartridge.<sup>41</sup>

The identifying feature of the 56-52 is its bottlenecked case. In most of the early specimens the bottleneck, which is more a bullet crimp than anything else, can be seen between .4" and .7" above the base. In later rounds, the crimp may resemble a bottleneck taper more than a real bottleneck. Pulling the case between the fingers may be a surer means of identifying than visual inspection.<sup>42</sup>

The third version of cartridge casings made for the Spencer carbine was the .56-50 rimfire cartridge. "In the fall of 1864, the 56-50 (calibre 0.50) cartridge was designed at Springfield (Armory)". Thus Col. Lewis clarifies the origin of this latest of the Spencer military cartridge. A cartridge with a long case, tapered crimp, inside lubricated bullet, and three or more stabs in the case at the lower grease groove to hold the ball in place, is quickly recognized as the 56-50. About the only variations were in the design of the crimpers: Goldmark had two points for each stab, sometimes made three, four, or five stabs; one maker, unknown made a complete circle crimp; otherwise the rounds resembled each other. Note: After the war commercial producers followed their own patterns.<sup>43</sup>



**Figure 1:** The artifact seen above is the .56/50 Spencer rimfire casing. This was the third and most efficient version of the Spencer rimfire cartridge casing.



**Figure 2:** The firing pin mark on the rim of the Spencer cartridge casing takes on the appearance of a half-moon indentation on the edge of the rim. The firing pin indentation on this specific casing is clearly seen on the right center edge of the cartridge rim.

**f. Colt and Remington Revolvers (.36 and .44 Round Ball):**

There were a few cast round balls of the .36 and .44 caliber measurements found at the Baker Battlefield. These were discovered in both Indian Positions #4 and # 6 and probably represent the only dropped ammunition found in the Indian Positions.

### **Concise History of the Colt and Remington Revolvers and related ammunition:**

The .44 calibre six-shot single action Remington Beals Army Revolver was made by E. Remington & Sons of Ilion, New York, to Fordyce Beals' US Patent 21,478 of September 1858. It was a sturdy solid-frame gun with Beals' Patent Rammer, a brass trigger guard, an octagonal barrel and a small web beneath the rammer shaft. Unlike later Remington army revolvers, the attaching threads were invisible where the barrel abutted the cylinder face. The guns were 13.8 inches overall, had an eight-inch five-groove barrel, and weighed 46 oz unladen. They were generally blued, and had case-hardened hammers.<sup>44</sup>

The comparative lack of success of the Beals' pattern army revolver prompted Remington to substitute a rammer patented by William Elliot in December 1861 (US Patent 33,932). This supposedly permitted the cylinder axis-pinto be withdrawn without releasing the rammer catch, but the cylinder catch sometimes slid forward on firing and jammed the mechanism. Excepting the rammer, the 1861-model was practically indistinguishable from the earlier Beals type.<sup>45</sup>

The ineffectual Elliott Reammer was replaced by an improved pattern patented by Samuel Remington in March 1863. New Model Army Revolvers had safety notches between the nipples and attachment threads visible where the barrel abutted the cylinder face. The army revolvers had brass trigger guards, were about 13.8 in overall, had five-groove eight-inch barrels, and weighed 46 oz.<sup>46</sup>

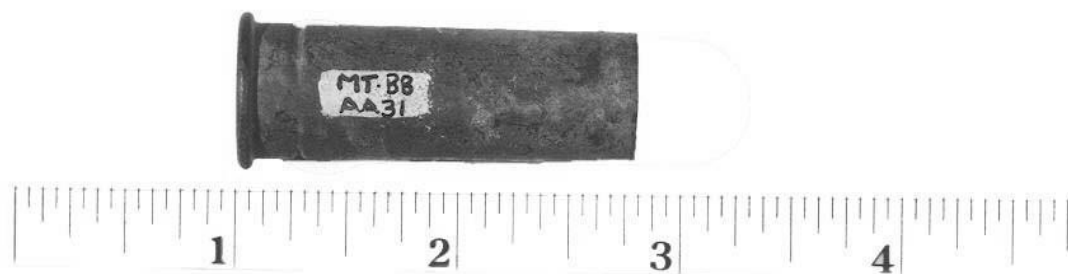
From 1863 until June 1866, Remington supplied the Federal government with 125,314 .44 calibre guns, constituting almost the entire production run. There were also about 23,000 .36-calibre, but otherwise similar 42 oz Navy army Revolvers.<sup>47</sup>



**Figure 1.** .36 caliber round ball found in an Indian Position at Baker's Battlefield

**g. Sharps Carbines (.50/70 Cartridge Casing):**

For information regarding the .50/70 cartridge cases fired in the Sharps carbines refer to *Section XV: Weapons and Ammunition Used by Soldiers and Civilians at Baker's Battle on the Yellowstone, August 14, 1872.*



**Figure 1.** Cartridge casing fired from a Sharps conversion carbine.

**H. Springfield Rifles Model 1866, 1868 and 1870 (.50/70 Cartridge Casing):**

For information regarding the .50/70 cartridge cases fired in the Springfield Rifles, model 1866, 1868, and 1870, refer to Section *XV: Weapons and Ammunition Used by Soldiers and Civilians at Baker's Battle on the Yellowstone, August 14, 1872.*





**Figure 1.** Cartridge casing fired from a Springfield Rifle. This cartridge casing is too badly corroded to determine model of rifle.

### **3. Perspectives on the ‘Other’ Cartridge Casings**

#### **a. .45/70 cartridge casings:**

There were a handful of .45 caliber cartridge casings found on Baker’s Battlefield. A few of these were mixed in with the .50 caliber cartridge cases. Is it possible that some of these could have been experimental versions of the .45 caliber casing used by the new .45/70 Springfield rifles. These .45 caliber casings may have been used by Major Brisbin’s Expedition of 1875 or Colonel Gibbon’s Montana Column who camped at Baker’s Battlefield during the Campaign of 1876.

These .45/70 cartridges have no Head Stamp, which indicate that they predate 1878.

The practice of dating the .45 caliber cartridges began in March of 1877.<sup>48</sup>

The fact that the .45 caliber casings have no date is significant because it places their production as early as 1872 (more likely 1873 to March of 1877). The only military units to use this battlefield as a campsite were Major Baker in August of 1872, Major Brisbin in 1875 and Colonel Gibbon in the Summer of 1876. In all these cases, the units were the 2<sup>nd</sup> Cavalry and / or the 7<sup>th</sup> Infantry. If the casings were from the 1875 or 1876 expedition, the men may have been reminiscing about the battle that occurred in the summer of 1872.

The Yellowstone Wagon Expedition of 1874, a heavily armed force of prospectors, some of whom had significant military experience also camped at Baker’s Battlefield in 1874.

However, the members of that expedition were primarily armed with “Needle Guns”.

These “Needle Guns” that the men were supplied with were probably Model 1866, 1868 or most probably Model 1870 Springfield Rifles that fired a .50 caliber center fire

cartridge.<sup>49</sup> Understanding this information reduces the probability that the .45/70 cartridge casings were left by the members of the Baker expedition. The excavation of two infantry buttons in close proximity to the .45/70 shell casings and skirmish line also further decreases the probability of the 1874 Wagon Expedition being the source of the .45/70 cartridge casings. These Infantry Eagle buttons were most likely left from members of the 7<sup>th</sup> Infantry either during the battle or from Gibbon's camp in 1876.

It is conceivable that the .45/70 cartridge casings could have been used following 1876, but their use is probably of military origin because they are found directly within the boundaries of the skirmish line surrounding the soldiers' camp. In addition to the .45/70 cartridge casings found within the boundaries of the skirmish line, additional .45/70 cartridge casings have been found nearby at the Tracy's Landing site, which leads to some confusion as to whom brought them there.

Paul McCormick, one of the men who frequented Baker's Battlefield in the years following the battle landed supplies here for later shipment to Fort Pease during the time he constructed and used that Trading Post.<sup>50</sup> He or his men may have left these casings here in the years following the battle. Major Brisbin's men also may have left these cartridges here in 1875 when his expedition marched to Fort Pease and ordered that post abandoned.

Tracy's Landing, itself, was not in use prior to the late 1870's but it lay in close proximity to the battle site. Obviously, the origin of the .45/70's is a mystery; yet, someone familiar with the battle discharged the casings that lay directly within the

skirmish lines.

**Military adoption of the 45/70 cartridge casing:**

"The 1873 Ordnance Board headed by General Terry found that the .45 caliber bullet gave better ballistic results than the .50 caliber bullet, resulting in the board choosing the .45 caliber Springfield Trapdoor rifles and carbines. The first of these were designated the M 73 Rifle or M 73 Carbine."<sup>51</sup> An interesting side note is that in 1872, the Army convened an Ordnance Board to select a "breech-loading system for muskets and carbines (War Department Special Order No. 58). This board selected the Allin Conversion as being the weapon best suited for the Army's purpose but reduced the caliber to .45.<sup>52</sup>



**Figure 1.** .45/70 cartridge casing found near the Baker Battle Site

**b. .56/50 Cartridge Casings:**

The .56/50 Casings found in Major Baker's Camp site are a mystery as well. They could be from civilians who camped with the soldiers or they could have come from others who

frequented this ground before or after the battle. There is one account of a Spencer carbine being used by a civilian during the fight. This account is from Thomas LeForge, who remembers that he was armed with a Spencer 7-shot repeater during this skirmish.<sup>53</sup>

The only other account of a specific weapon was that of a “fine rifle” being taken by the Indian raiders.<sup>54</sup> One can speculate that a ‘fine’ rifle was a Henry or Winchester Repeating Rifle, although this can not be proven. For a brief history of the Spencer .56-50 casing See: *Weapons and Ammunition Used by the Sioux, Northern Cheyenne and Arapaho at Baker’s Battle on the Yellowstone, August 14, 1872*



**Figure 1.** .56/50 cartridge casing found at the Baker Battle Site.



**Figure 2.** Note the half-moon firing pin impression on the Spencer Casing.

**c. .44 Henry Cartridge Casing:**

One .44 caliber cartridge casing fired in a Henry or Winchester rifle that had misfired at least 1 time prior to firing was found in the proximity of the cavalry skirmish line at the slough and timbers. This tells us that someone armed with a Henry or Winchester Rifle fired a shot either during the battle or during an unrelated event such as a hunting expedition. It is highly probable that it is battle related due to the misfire markings, consistent with many of the Henry casings found in the various Indian positions. The discovery of this casing near the cavalry skirmish line is consistent with the following account taken from Lieutenant Bradley's Journal.

Toward 3 O'clock Lt. Logan makes the rounds of his sentinels, finding all quiet. Soon afterwards from the timber at different points along the landward side of the slough the Indians opened fire and advanced upon the island to attempt to capture the beef herd.<sup>55</sup>

Besides this casing, a .50 caliber round ball was discovered near Tracey's Landing, which is in close proximity to the skirmish line. Its origin is unknown. For a brief history of the

.44 Henry casing refer to subsection: *Weapons and Ammunition Used by the Sioux, Northern Cheyenne and Arapaho.*



**Figure 1:** Side view of a .44 Henry casing

**Subsection k: Endnotes:**

1. John D. McAuley, *Civil War Breech Loading Rifles: A survey of the innovative Infantry arms of the American Civil War* (Lincoln, Rhode Island: Andrew Mowbray Inc., 1987) 95.
2. ibid. p. 93.
3. Walter P. Reuland, *Cartridges for the Springfield Trap-Door Rifles and Carbines 1865 – 1898* (Laramie, Wyoming: Heritage Concepts, 1993) 13 – 14.
4. Ibid. p. 124.
5. Ibid. p. 124 – 126.
6. Ibid. p. 126.
7. Ibid. p. 126.
8. Ibid. p. 126.
9. Ibid. p. 126.
10. Doug Scott, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*, Unpublished Report.
11. McAulay p. 40.
12. ibid.
13. Bruce R. McDowell, *Development of the Henry Cartridge and Self-Contained Cartridge for the Toggle-Link Winchesters* (Metechen, New Jersey: A.M. B., 1984) 35 – 38.
14. Ibid.
15. Ibid.
16. Ibid.
17. Ibid.
18. Scott, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*, Unpublished Report.
19. Ibid.



20. McAulay, p. 70.
21. Ibid.
22. John L. Barber, *The Rimfire Cartridge in the United States and Canada 1857 – 1984* (Washington: Armory Press, Tacoma, Washington. 1987).
23. Scott, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*, Unpublished Report.
24. John Walter, *The Guns that Won the West: Firearms of the American Frontier, 1848 – 1898* (Mechanicsburg, PA: Greenhill Books, London NW and Stackpole Books) 158.
25. Scott, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*, Unpublished Report.
26. McAulay, p. 7.
27. Ibid.
28. Ibid.
29. McAulay, p. 9.
30. Ibid.
31. Walter, p. 77.
32. Ibid.
33. Ibid. p. 78.
34. ibid.
35. Barber, p. 387.
36. Scott, *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*, Unpublished Report.
37. McAulay, p. 93.
38. Ibid.
39. Barber, p. 390.

40. Charles R. Suydam, *U.S. Cartridges and Their Handguns, 1795 – 1975* (Wilson and Follett Co., 1978) 127
41. Ibid.
42. Ibid.
43. Suydam, p. 125.
44. Markham, p. 38.
45. Ibid. pp. 38 – 39.
46. Ibid. p. 39.
47. Ibid.
48. Reuland, p. 18.
49. Don L. Weibert, *The 1874 Invasion of Montana: A Prelude to the Custer Fight* (Billings, Montana, Published by Don Weibert, 1993) 11.
50. E.S. Topping, *The Chronicles of the Yellowstone* (Minneapolis: Ross and Haines, Inc. 1968) 151.
51. Reuland, p. 14.
52. Ibid. pp. 2-3.
53. Thomas B. Marquis, *Memoirs of a White Crow Indian* (Lincoln: University of Nebraska Press, 1974) 83.
54. Mark Brown, *Plainsmen of the Yellowstone* (New York: G.P. Putman & Sons, 1961) 200.
55. Lieutenant James H. Bradley, *The March of the Montana Column: A Prelude to the Custer Disaster* (Norman: University of Oklahoma Press, 1991) 59.

## **VII. Conclusions, Recommendations and Lessons Learned**

## **a. Conclusion**

- 1. What we set out to do:** For many years the location of Baker's Battle on the Yellowstone had faded into obscurity. The Principal Investigators set out to prove that a site a few miles east of Billings was Major Baker's Battlefield of 1872. They planned to accomplish this by examining both historical and archeological data to determine if existing accounts matched the archeological evidence. Once the determination was made that this site was the battlefield in question, the investigators set out to create the most accurate historical account of the fight possible based upon primary and secondary historical evidence and archeological findings which had been gathered for nearly twenty five years. As the investigators progressed in their study. Collaborative alliances were built with both professionals and amateurs who shared interest in the project. This collaboration resulted in professional artifact analysis, quality mapping of the site, photography of the artifacts and terrain, and additional research related to the study.
- 2. Search for evidence:** Metal detecting surveys were largely completed prior to the initiation of the grant process. The majority of the physical evidence of this battle was discovered, recorded and cataloged prior to the grant. The initial evidence uncovered was recorded, and the artifacts replaced first by pennies then by lead disks. The lead disks were re-located and mapped during the first total station survey of the battlefield and Tracy's Landing which was completed by Mel Walker, under the grant. The later discovery of the area identified as

Captain Ball's Skirmish Line and the Avenue of Approach to this portion of the battlefield was subjected to a total station survey by Tim Urbaniak during 2002 – 2003. His services were generously donated.

3. **Catalog the evidence:** The locations and physical evidence found at Baker's Battlefield were recorded by Mel Walker and Tim Urbaniak and can be found in Section VI, subsection H, and Appendix J of this report.
4. **Research the historical record:** The authors had gathered a significant amount of information regarding the battle prior to the grant. Subsequently, John McDermott was hired under the grant to complete an archival records search in the early stages of the project. Additional research by the Principal Investigators and numerous other contributors was an on-going process.
5. **Interpret the evidence (compare to original source):** The investigators gathered a wealth of primary and secondary data. . The best and most accurate sources found were Major Barlow's report, muster rolls, regimental reports, and Major Baker's report. Correspondences to various officials, letters from Cheyenne River, Grand River, Red Cloud, Fort Berthold and the Montana Superintendency were studied and accounts provided by individuals who participated in the fight were also studied. The authors took into consideration the physical evidence found at Baker's Battlefield in determining the accuracy of the original sources. There were accounts by both soldiers and Native American participants that distorted or exaggerated the fight. Care was taken to ensure that

a balanced report would be produced.

6. **Explore avenues to make the site part of the public experience:** The Principal Investigators in conjunction with the Frontier Heritage Alliance are active in seeking ways to make this site part of the public experience. J.T. Long Incorporated, a company involved in gravel operations, which owns a parcel of land that overlooks the battlefield was contacted. A representative of J.T. Long and members of the Frontier Heritage Alliance met to determine the feasibility of purchasing this parcel of land with the intent of using it in historical interpretation. J.T. Long Inc. will consider the possibility of donating this parcel of land to the Frontier Heritage Alliance following a five year time period.
  
7. **Commemorate the fallen combatants:** The Sioux tribe is encouraged to initiate a ceremony to commemorate the fallen warriors. A ceremony for the fallen soldier organized by Harold Hagen and the American Legion took place prior to the grant process. A standard military headstone is currently in place.

**b. Recommendations for further Study**

The Principal Investigators realize the wealth of information, both historical and archeological that the Baker Battle site and the battle-related artifacts hold for further study of the Sioux Indian War Period of our nation's history. Listed below are the recommendations for further study.

1. Comparison of the Baker Battle collection to other relevant collections (Little Big Horn Collection, Weibert Collection, etc. Comparing this collection to other known collections relating to the Sioux Indian Wars will begin to show the movement of non-reservation Sioux throughout Montana, and possibly other states. This future study could answer historical questions such as, “were the Sioux at Baker’s Battle also present at Little Bighorn, Rosebud, and other battles of the Sioux Indian War.
2. Research Sioux and other tribal recollections of the battle. The Principal Investigators strongly encourage the support of Tribal Preservation Agencies in further adding to any information known regarding this battle.
3. Monuments for “Plenty Lice”, Spotted Tail’s brother, “Hawk Dog”, and Lame Deer’s nephew, a Minneconjou could be placed at the battlefield.
4. The construction of Interpretive Signs and eventually a center in close proximity to the battlefield. This would provide the public access to this historical site. (possibly old trailer park that overlooked the site currently owned by J.T. Long .)
5. A Search for pension files, other records of soldiers present at the battle would be

valuable in exploring the history of the battle.

### **c. Lesson's Learned**

Early on in the process of the metal detecting survey and in the four years prior to Applying for a Grant for the Baker Battle on the Yellowstone Project mistakes were made in the survey of the Baker Battle site.

The original investigators of the site used rock cairns and pin flags to mark artifact locations during the first day on the battle site. When the magnitude of potential recovery was realized, the investigators considered better methods to record the discoveries.

When artifacts were found they were replaced by pennies with an identification number scratched onto the penny. The use of rock cairns also continued throughout the duration of the project.

The two took numerous photos and videotaped each artifact location of the early metal detecting process. Despite these measures there were complications that would cause a re-thinking of these re-location processes.

Pennies were found to be difficult to relocate and weather in the form of high winds and heavy rains took a toll on the pin flags. Due to these problems some artifact locations had to be reconstructed using the photos and video which may have led to some discrepancies on the 'perfect' locations of the earliest artifacts.

By the summer of 1997 the two had a solution for the 'penny' problem. The answer

was the use of silver dollar sized lead disks with artifact numbers stamped on them. These disks were easier to re-locate and since they are composed of lead, would hold their form for centuries. However, there were times during this year that hand drawn maps and rock cairns were initially used and lead disks were placed at a later date. Despite good records of the artifact positions, the potential for mistakes was there.

By the time the initial investigators recovered the artifacts from the soldier skirmish line and continued work on the Indian positions lead disks instantly replaced the recovered artifacts. Had this been done since day one the locations would be perfectly surveyed.

Despite the early problems the vast majority of the Indian artifacts and all of the soldier artifacts found in the slough have been accurately plotted. The ones that are not precisely plotted are at least in the same Indian Position, and in most cases, very near their original location.

During the late summer of 2001, the original principal investigators determined that the use of global positioning satellite systems (hand-held) devices would greatly benefit the relocation process. These two individuals have used this method on smaller projects that have taken place since the Baker Battlefield survey. Incidentally, The use of hand-held GPS devices, hand-made sketching and the placement of lead disks at the Captain Ball Skirmish line found discovered on Nov. 10, 2001 ensured that this position was accurately mapped by the Principal Investigators.

As can be seen the investigators have learned a great deal about properly marking the location of artifacts. The investigator's methods have significantly evolved throughout



the duration of this project. The use of lead disks marked with artifact numbers, GPS devices, hand sketches and proper field notes are the current norm for the principal investigators. The lessons they have learned during this project have been noted and expanded upon during other archeological projects undertaken.

## **VIII. Bibliography**

## **Manuscript Materials**

Baton Rouge, Louisiana, Louisiana State University, Special Collections  
Christian D. Koch and family papers 1829 – 1912

Billings, Montana, Montana State University  
Letters Received by the Office of Indian Affairs, 1824 – 1881, Montana  
Superintendency, National Archives Microfilm Rolls

- Roll 490 Letters Received by the Office of Indian Affairs, 1870
- Roll 491 Letters Received by the Office of Indian Affairs, 1871
- Roll 492 Letters Received by the Office of Indian Affairs, 1872
- Roll 493 Letters Received by the Office of Indian Affairs, 1872
- Roll 494 Letters Received by the Office of Indian Affairs, 1872
- Roll 495 Letters Received by the Office of Indian Affairs, 1873
- Roll 497 Letters Received by the Office of Indian Affairs, 1873

Bloomington, Indiana, Indiana University – Lilly Library  
Walter M. Camp Manuscripts

Bozeman, Montana, Montana State University  
Collection 2184 William H. Tracy Papers, 1866 – 1909  
Collection 2406 Lilla Bogert Letters, 1876 - 1877  
Collection 783, William Milnor Roberts Papers, 1828 – 1959

Carlisle, Pennsylvania. Army War College. U.S. Army Military History Institute.  
Manuscript Division

South Dakota State Archives, Bureau of Indian Affairs Records  
Letters Received by the Office of Indian Affairs (M-234) 1824 – 1880.  
Cheyenne River Agency, 1871 – 1872  
Grand River Agency, 1871 - 1872  
Fort Berthold Agency, 1867 - 1872  
Red Cloud Agency, 1871 - 1872

Washington, D.C. Library of Congress  
Sherman-Sheridan Papers

Washington, D.C. National Archives  
RG 94 Letters Received by the Adjutant General's Office, 1871-1873  
RG 159 Records of the Office of the Inspector General, 1871-1872  
RG 393 Letters of the U.S. Army Continental Commands, 1871-1872  
2<sup>nd</sup> Cavalry Regimental Returns for the month of August, 1872  
7<sup>th</sup> Infantry Regimental Returns for the month of August, 1872  
Muster Rolls of the 2<sup>nd</sup> Cavalry, 1872. Microfilm  
Muster Rolls of the 7<sup>th</sup> Infantry, 1872. Microfilm

## Government Publications

Major J.W. Barlow, *Letters from the Secretary of War*, 42<sup>nd</sup> Congress, 3d Session, Ex. Doc. No. 16, (Washington: Government Printing Office, Jan. 6, 1873).

Brig. General W.F. Reynolds, Senate Executive Document. *Report on the Exploration of the Yellowstone River*. (Washington: Government Printing Office, 1868).

*The Report of Escort to Surveying party of N.P.R.R. commanded by Maj. E. Baker, 2<sup>nd</sup> Cavalry*, dated July 27<sup>th</sup> 1872. House Exec. Doc. 1, pt. 5 Serial 1560, p. 397.

Heitman, Francis B., comp. *Historical Register and Dictionary of the United States Army, from Its Organization, September 29, 1789, to March 2, 1903*. 2 vols. Washington: Government Printing Office, 1903.

## Books

Lieutenant Bradley, James H., *The March of the Montana Column: A Prelude to the Custer Disaster* (Norman: University of Oklahoma Press, 1991).

Barber, John L. *The Rimfire Cartridge in the United States and Canada 1857 – 1984* (Tacoma, Washington: Armory Press, 1987).

Brown, Mark, *Plainsmen of the Yellowstone*, (New York: G.P. Putman & Sons, 1961).

Carrington, Francis Courtney, *My Army Life and the Fort Phil Kearney Massacre*. (Philadelphia, London: J.B. Lippincourt Company, 1910).

Brevet Major General Cullum, George W., *Biographical Register of the Officers and Graduates of the U.S. Military Academy at West Point, N.Y. From its Establishment in 1802 to 1890, With the Early History of the United States Military Academy* Third ed. Vol. III. (Boston and New York: Houghton, Mifflin and Company, The Riverside Press Company, 1891)

Ege, Robert J., *Tell Baker to Strike Them Hard! Incident on the Marias, 23 Jan.* (Bellevue, Nebraska: The Old Army Press, 1970).

Gray, John S., *Custer's Last Campaign Mitch Boyer and the Little Bighorn Reconstructed* (Lincoln and London: University of Nebraska Press, 1991).

Greene, Jerome, *Nez Perce Summer 1877: The U.S. Army and the NE-ME-Poo Crisis* (Helena, MT: Montana Historical Society Press, 2000)

- Hyde, George E. *Red Cloud's Folk: A History of the Oglala Sioux Indians*. Norman: University of Oklahoma Press, 1937 (Third Printing, November, 1967)
- Kappler, Charles J, comp., *Indian Affairs: Laws and Treaties*, 2 vols. (Washington, D.C., 1904).
- Major Lambert, Joseph I., *One Hundred Years with the Second Cavalry*, By the Commanding Officer, Second Cavalry (Fort Riley, Kansas: Press of the Caper Printing Company, Inc. 1939).
- Leslie, Frank, *History of Montana 1739 – 1885*, (Chicago: Warner, Beers and Company, 1885).
- Markham, George, *Guns of the Wild West: Firearms of the American Frontier 1849 – 1917* (London, New York and Australia: Arms and Armour Press, 1991).
- McAulay, John D. , *Civil War Breechloading Rifles A survey of the innovative Infantry Arms of the American Civil War* (Lincoln, Rhode Island: Andrew Mowbray Inc., 1987).
- Marquis Thomas B. *Memoirs of a White Crow Indian* (Lincoln: University of Nebraska Press, Nebraska, 1974).
- McAuley, John D., *Carbines of the U.S. Cavalry, 1861 - 1905*\_(Lincoln, Rhode Island: Andrew Mowbray Publishers, 1996).
- McClermand, Edward J., *On Time for Disaster, The Rescue of Custer's Command* (Lincoln and London: University of Nebraska Press, First Bison Printing 1989 Copyright 1969, Arthur H. Clark Company).
- McDowell, Bruce R., *Development of The Henry Cartridge and Self-Contained Cartridges for the Toggle-Link Winchesters* (Metechen, New Jersey: A.M.B. 1984).
- Price, Catherine, *The Oglala People, 1841 – 1879 A Political History* (Lincoln: University of Nebraska Press, 1996).
- Rueland, Walter P., *Cartridges for the Springfield Trap-Door Rifles and Carbines 1865 – 1898*, (Laramie, Wyoming: Heritage Concepts, 1993).
- Sanders, Helen Fitzgerald, *A History of Montana, Vol. II*. 1913.
- Smalley, Eugene Virgil, *History of the Northern Pacific Railroad* (New York: Putnam, 1883).

Suydam, Charles R., *U.S. Cartridges and Their Handguns, 1795 – 1975* (Wilson and Follett Book Co., 1978).

Topping, E.S., *The Chronicles of the Yellowstone* (Minneapolis: Ross and Haines, Inc. 1968).

Utley, Robert M., *The Lance and the Shield* (New York: Henry Holt and Company, 1993).

Vestal, Stanley, *Warpath* 1<sup>st</sup> ed. 1934, (Lincoln: University of Nebraska Press, 1984).

\_\_\_\_\_, *New Sources of Indian History: 1850 – 1891* (University of Oklahoma Press, Norman, 1934).

Walter, John, *The Guns that Won the West: Firearms of the American Frontier, 1848 – 1898*. (Mechanicsburg, PA: Greenhill Books, London NW and Stackpole Books, 1999).

Weibert, Don L. *The 1874 Invasion of Montana: A Prelude to the Custer Fight* (Billings, Montana: Published by Don L. Weibert, 1993).

### **Articles**

Hutton, Paul, “Phil Sheridan’s Pyrrhic Victory The Piegan Massacre, Army Politics, and the Transfer Debate” *Montana Magazine of Western History*, Vol. 32, No. 2, (Spring, 1982) 39.

Rolston, Alan, “The Yellowstone Expedition of 1873”, *Montana Magazine of Western History* 22 (Spring 1970) 23 – 24.

“The Thirty-Second Annual Reunion of the Association Graduates of the United States Military Academy, at West Point, June 8, 1901.”

“The Association of the Graduates of the United States Military Academy Annual Report June 11, 1935”

### **Newspaper Inserts**

National Tribune, 1904

Army and Navy Journal, 1873

New Northwest, 1872

Judith Basin County press, 1936

Helena Record-Herald, 1930

### **Personal Communications**

Jack McDermott, contributions  
Jack (John) Hawkins, contributions

### **Internet Resource**

*Family Tree Maker On-Line: User Home Pages. (Descendents of Pete Cummins).*

### **Maps**

Map of Fort Laramie Treaty, 1868 (The Great Sioux Reservation) on page 24 taken from taken from the War Department Map of the Yellowstone and Missouri Rivers, revised by Maj. G.I. Gillespie, U.S. Engineer, Brevet Lt. Col. U.S.A. Chief Engineer, Military Division of the Missouri, 1876, Montana Military Institute, *Charles H. Springer Papers, 1865-1890*. Treaty boundaries, unceded hunting lands, and major features sketched on original based on observations from Map Titled “Fort Laramie Treaty Land” on the following web site, <http://www.dickshovel.com/1868/html>.

Map of Expedition found on page 73 taken from NARA RG 94, *Records of the Adjutant General's Office*, Letters Received # 3323, 1872.

Billings East Quad Map found on page 74 (Baker's Battlefield is located on Sections 5, 6, 7, and 32 of T1N, R27E, Principal Meridian.

### **Unpublished Manuscript**

Bogges, Howard, *The Grave at the Site of Major Baker's Battlefield*, undated.

Feyhl, Kenneth, *Tracy's Landing (Baker's Battleground Tie-up)*, Feb. 25, 1993.

Feyhl, Kenneth, *Tracy's Dock / Landing Update*, April 12, 2002.

Scott, Douglas D. *Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana*, Lincoln, Nebraska, July 22, 2001, Unpublished Report for the Baker Battle on the Yellowstone, August 14, 1872 Report.

### **Appendix A: Firearm Identification Process**

# **Firearms Identification of the Cartridge Cases and Bullets from the August 14, 1872 Baker Battlefield, Montana**

By Douglas D. Scott  
Technical Advisor, Association of Firearms and Toolmark Examiners  
Forensic and Archeological Services  
Lincoln, Nebraska  
July 22, 2001

## **Introduction**

Cartridges, cartridge cases, and bullets are the majority of the artifacts recovered from the battlefield and through their class and individual characteristics have the potential to reveal the most information about the battle. The comparative study of ammunition components is known as firearms identification analysis. Firearm characteristics on cartridge cases are firing pin and extractor marks; on bullets they are land and groove marks. These characteristics allow the determination of the type of firearm (i.e. model or brand) in which a given case or bullet was fired. This then allows determination of the number of different types of guns in use at the battle. Further, they allow the identification of individual weapons by comparing the unique qualities of firearm individual characteristics. For example, the number of individual Springfield carbines or Henry repeating rifles represented in the archaeological collection can be demonstrated. This capability is very important because coupled with the precise artifact locations, identical individual characteristics can be used to trace the movements of individual weapons across the field of battle. With this information, patterns of movement can be established and the battle sequence can be more precisely interpreted.

The means to this analytical end require some explanation. When a weapon is fired the firing pin strikes the primer contained in the cartridge, leaving a distinctive imprint on the case. The primer ignites the powder, thus forcing the bullet down the barrel. The rifling in the barrel imprints the lands and grooves on the bullet in mirror image. So also does the extractor imprint the spent case as it is extracted from the gun's chamber. These imprints are called class and individual characteristics. Microscopic examination of a class characteristic allows determination of the weapon type. This is important because many types of ammunition can be fired in a variety of firearms. By way of example the .44 caliber Henry cartridge could be fired not only in the Henry repeating rifle (for which the Henry cartridge was designed) but also in the Model 1866 Winchester, the .44 rimfire Colt pistol, and among others the .44 rimfire Remington revolver. The firing pin of each weapon type is distinctive, and it is thus possible to identify the weapon type in which a given .44 Henry cartridge was fired.

Police agencies have long used the investigative technique of firearms identification as an aid in solving crimes. They commonly compare bullets and cartridge cases (Harris 1980; Hatcher, Jury, and Weller 1977; Gunther and Gunther 1935) to identify weapon types

from which they were fired. Police are routinely successful in matching bullets and/or cartridge cases to a crime weapon simply by demonstrating that the firing pin, extractor marks, or the land and groove marks could only have been made by a certain weapon. In the event that weapons used in a crime are not recovered, police can say with certainty, on the basis of the class and individual characteristics found on bullets and cartridge cases, that specific types and numbers of weapons were used.

Macroscopically, firing pins and their characteristics often appear identical from weapon to weapon within a single type. However, minute variations, unique to each firing pin, allows the identification of individual weapons. Such variations are visible only via the microscope. These unique variations are caused by variable tolerances in tooling machinery and wear to cutting surfaces involved in the manufacture of the firearm. Thus, the individual characteristics left on most ammunition components from the Baker battlefield are amenable to firearms identification procedures even after nearly 130 years in the ground. In essence, the mark is a metallic fingerprint.

Extractor characteristics are also valuable metallic fingerprints. A fired cartridge case is removed or ejected from a firearm by a mechanical device called an extractor. Just like the firing pin, the extractor leaves its imprint on the case. Extractors installed in weapons of a given type, for example a Springfield rifle or carbine, leaves a characteristic mark peculiar to the type. That is, the extractor characteristic on cases fired in the Springfield carbine is different from signatures left by other weapon types. Furthermore, and again like firing pins, each extractor has unique traits that distinguish it from all other extractors of the same type. Given these extractor characteristics it is possible to identify individual weapons within each type by microscopic examination. The ability to read extractor characteristics provides strong corroborating data when used in conjunction with analyses of firing pin individual characteristics, for both occur together on most cartridge cases.

Bullets, of course, are also important in firearms identification. The barrel of rifled guns has a series of lands and grooves that impart a spin to the bullet as it travels down the barrel. This spin gives the bullet greater aerodynamic stability and accuracy in its trajectory. The bullet is lead and the barrel is steel. Since the bullet fits tightly in the barrel, the barrel leaves its land and groove impressions, in reverse, on the softer lead bullet. As with a firing pin, each barrel manufactured for a certain weapon type has individually recognizable characteristics. The land and groove characteristics left on the bullets can be used to determine weapon type and individual weapons within a type.

The comparison microscope is critical to the analysis of ammunition. Simply, the microscope is constructed so that two separate microscope tubes are joined by a bridge with prisms mounted over the tubes. Two separate images are transmitted to the center of the bridge, where another set of prisms transmit the images to central eyepieces. The eyepieces are divided so that each image appears on one half of the eyepieces. Movable stages allow the objects under scrutiny to be manipulated so that they can be directly compared for class and individual characteristics.



All cartridges and cartridge cases from the Baker Battlefield were analyzed utilizing these firearms identification procedures.

The following lists and discusses the cartridge cases and bullets that could be reliably identified as to type the type of weapon in which they were fired. A large number of the cartridge cases in the artifact assemblage were too oxidized or corroded to allow any but caliber determination. These are not discussed in the following, only those cartridge cases and bullets that could be studied for class and/or individual characteristics are discussed.

### **Baker Battlefield Firearms Analysis and Identification**

#### **.22-Caliber Long Rimfire**

The .22-caliber cartridge is one of the oldest rimfire calibers. The single **US** (BB1-X (5,24)) headstamped case is a long rimfire. The long was introduced about 1871 or perhaps earlier (Barnes 1997:380) and is still in production today.

#### **.25-Caliber Rimfire**

A **US** or United States Cartridge Company .25-caliber Stevens Short rimfire case (T1E) was noted in the collections. This cartridge was introduced in 1902 and discontinued in 1942 (Barnes 1997:383). The firing pin mark remains unidentified, but Winchester, Remington, and Stevens all chambered inexpensive rifles for this round.

#### **.30-40-Caliber Krag**

The .30-caliber cartridge was developed by the U.S. army and introduced in 1892 as the .30-40-caliber for the Model 1892 Springfield Rifle also known as the Krag (Brophy 1980). A single specimen (AA45E) with a Peters headstamp indicates a twentieth century manufacture. Another case with no number is also present.

#### **.32-Caliber Rimfire**

The .32-caliber rimfire cartridge was first introduced for the Smith and Wesson revolver in 1860 (Barnes 1989:364). It became a very popular caliber with many manufactures chambering firearms for this round, and was still available as late as 1973. The two cartridge cases (AA76E, INF-082) are not headstamped. The firing pin imprints are consistent with it being fired in a Smith and Wesson revolver.

#### .36-Caliber

A single round ball in .36-caliber (AA20E) was noted in the collection. It is too deformed by impact to determine weapon type, although there were a variety of pistols chambered in this caliber during the third quarter of the nineteenth century. A conical bullet (BB-E4023) is also present and retains the left-hand twist impressions of six land and grooves which is consistent with being fired in a Colt Navy type revolver. A .36-caliber ball (SCO07) also has the Colt land and groove marks.

#### .38-Caliber

There are three .38-caliber cartridge cases (E4AA42E, INF-080, INF-083). The first has no headstamp and the latter two are headstamped **WCF** for Winchester Centerfire. The .38-caliber cartridge was introduced by Colt about 1875 and by Smith and Wesson about 1877 (Barnes 1989:238-239). Two bullets in .38-caliber (BB-6-003, P4E) have knurled cannelures, a feature that was not introduced until 1875.

#### Caliber .40-60 Marlin

Two cartridge cases in .40-60-caliber were found (AA53E, AA54E). The .40-60 round was introduced in 1881 for the Marlin (Barnes 1989:120). The round stayed in production in to the twentieth century. The cases are brass, boxer primed and are headstamped **WRA CO/40-60 WRA**. This headstamp is a post-1880 Winchester headstamp, thus indicating they are definitely post-date the battle.

#### .41-Caliber

The .41-caliber was introduced for short-range self-defense pocket pistols in 1863 (Barnes 1989:366). A single bullet (W4AA20E) has knurled cannelures indicating it was made after 1875.

#### Caliber .44 Bullets

Among the .44-caliber bullets from the Baker Battlefield are two round balls (AA69E) which is a poor casting and BB-W4030. The fire arm type was not determined. A single smooth bodied conical bullet fired in a Sharps (P6E) is present as well.

There are several 220 grain conical bullets in the group, all with land and groove marks indicating they were fired in a Henry, Model 1866 Winchester, or possibly one of the post-1873 models as all used the same rifling. These include AA3E, AA27E, A14E, L7E, T3E, BB-E6058, BB-I-D, BB-I-Z, BB-E4029, BB-W-3, BB-E4007 (knurled), BB-E4008 (knurled), BB-Y-9, WS041 (knurled), SC009, SC009, INF-048, and INF-056. Those with knurling in the cannellures definitely post-date the battle.

#### .44-Caliber Single Block Firing Pin Rimfire

Among the many .44-caliber rimfire cartridge cases are several with no headstamp and a single block firing pin imprint. These cartridge cases represent three different weapon types and nine different guns, the Remington .44-caliber revolver, a Smith and Wesson .44-caliber firearm, and seven Ballard single-shot rifles. The weapon types are distinguished by the unique style firing pin imprint. The Remington is long and narrow, the Smith and Wesson long and wide, and the Ballard is a wide but short, almost square imprint.

Remington .44-caliber type (more than one specimen number indicates a firing pin match with the listed cases:

1. 55E, 56E, 64E, (3,9), W6, 4C, 4B, W7, 2G, W4036

#### Smith and Wesson .44-caliber

1. W4B5E, B3E, W4201,4-3,2-O, W4046, F1, BB-41

#### Ballard .44-caliber

1. L2E L1E, R3E, E6001, E6002, 6D (struck 3 separate times), 1-I, O1A(2,17), O2A, O-3
2. 80E, B1AE, W6004, W6501
3. W9
4. 2-L,E 4012, 2I, 2K, G9, BB-45
5. G5(2,34, W4055A (struck twice), P2
6. 1-H
7. 1-G, 6C

## Henry .44 Caliber

One of the largest numbers of cartridge cases recovered from Baker Battlefield was the .44-caliber short rimfire. Many were headstamped with the **H** denoting Winchester Arms manufacture.

Most of the following discussion on the history of .44-caliber rimfire ammunition and the development of the Winchester rifle is taken from Harmon (1987). The .44 caliber Henry rimfire cartridge was developed in the late 1850s by B. Tyler Henry, the plant superintendent for Oliver Winchester at the New Haven Arms Company. The company's name was changed to Winchester Repeating Arms Co. in the mid 1860s. Henry also developed the first successful repeating rifle that would fire this cartridge by improving Smith & Wesson's Volcanic repeating arms which were a failure due to the small caliber and extraction problems. Henry's conception of a flexible claw shaped extractor was probably the most important single improvement leading to the success of the Henry Repeating Rifle and its .44 caliber rimfire cartridge. This extractor principle is still in use today, being used in the Ingram submachine gun (Kinzer 1983:34-38).

The first Henry cartridges were manufactured by the New Haven Arms Company. The cartridge had a copper case, a length of 0.82 inch, a round nose lead projectile 0.443-inch in diameter, and a weight of 210 grains, with a black powder charge of 25 grains. The total length of the cartridge assembled was 1.363 inches. The base of the case had no headstamp. In 1862 the company introduced another Henry cartridge and referred to it as the .44 Henry Flat because of its flatnose bullet, which weighed 216 grains. This was the first cartridge case to bear the letter **H** as a headstamp in honor of Henry. The raised letter **H** is in a circular depression in the center of the base of the case (McDowell 1984:35-6). The flat nose bullet variation was designed to lessen the danger of explosion in the magazine tube (Williamson 1952:28). Manufacture of this cartridge after 1865 was on a wide scale in America and Europe, owing to the popularity of the Henry Rifle and the Winchester Model 1866, the latter being an improvement of the Henry (Hoyem 1981:129). With such a large number of manufacturers the cartridge varied in case dimensions and projectile shapes having at least nine different variations (McDowell 1984:63-4).

The tendency for this rimfire ammunition to misfire was a serious problem in the early development of cartridge firearms. Henry designed a double firing pin for his repeating rifle that would strike the rim of the cartridge at points on opposite sides. The firing pins were wedge shaped, each being located on one side of the breech pin collar. The collar was threaded into the breech pin which was designed to move a fraction of an inch forward and rearward during firing. Both the Henry Rifle and its improved version, the Model 1866 Winchester, had firing pins that were exactly alike in shape and dimensions (Madis 1979:97). The firing pins were less pointed on some Model 1866s between serial numbers 24,000 and 26,000 but were changed back to their original shape due to misfire problems (Madis 1979:79).

Even with the double firing pin used in the Henry and Winchester Model 1866 rifles, these weapons were still prone to misfires. If the breech pin was dirty or rusty a very hard blow was required before the firing pins would penetrate the rim of the cartridge deeply enough to detonate the primer. This problem is evident on some of the cartridge cases from Baker Battlefield as is noted in the list of individual guns identified below. This is the result of the failure of the breech bolt, in either the Henry or Model 1866, to fit snugly against the face of the chamber, it is not the result of being fired in one model or the other.

The presence of the cases indicating misfires bring up some interesting facts. Spacing of the firing pin marks on these cases indicate they were rotated in the chamber slightly each time they were fired. This was not an easy task to perform with loaded cartridges in a Henry and Winchester Model 1866 as experimentation has shown. If the finger lever is gently thrown down when extracting the cartridge, the case will drop back onto the cartridge lifter and it can be inserted by hand back into the chamber. One must also look at the base of the case and rotate the misfire marks away from the firing pins. This all takes time.

Microscopic firearms identification revealed that class characteristics on each cartridge case indicated they were all fired in a Henry rifle or Model 1866 Winchester. Both are lever-action magazine fed repeating rifles. Both could hold up to sixteen rounds in the magazine and chamber.

.44-caliber Henrys or Model 1866 Winchesters (numbers in parentheses indicate the total number of paired firing pin strikes) type (more than one specimen number indicates a firing pin match with the listed cases):

1. C4E, I3E, 60E (6), 71E, AA2006E (2), 72E (7)
2. K2E, K3E, K4E, K6E, K7E, 67E, 57E (5), 6E, V4
3. L4E, 82E
4. R4E
5. R6E
6. T5E, 92 (2)
7. T9E, 4G (5)
8. C6E, 58E, 43E, D6E (2), W5 (2)
9. 65E, 59E, 69E, 66E, 77E, 68E, 10E (extractor problem)
10. 62E (2), B4E
11. A8058E (3), E9 (4)
12. A4/091E (3), J4E, J6E, E4 (2)
13. 51E
14. A3, 096E, F3 (3)
15. B6E
16. 63E, W4077
17. AA64/13E
18. 61E

19. N2E
20. C5E, 88, 87A
21. J1E, I9E, D2E, L5E, D5A, I8E, D3E, J2E, D1AE, D5E, I5E, W4202, W4200, 6B, I-1C, W6050, U-4, M5
22. S1E, 55E, S2E
23. S3E (2), R8E, S2E, R9E, C2E, 6A, 1-B, M8, P9
24. I7E (2), D7E, K8E, S8E
25. J7E, J5E, J8E, I2E, J9E, M9E, V5, V3
26. I4E, D8E, D9E, L3E
27. S7E, 4E (2)
28. S6E
29. I1E, D4E
30. W6005, W6003
31. W4215, W8, W4037, W4038, W4040, M9
32. W3004, X4
33. W6502
34. X-1, 87
35. 1-E, 85
36. 1-J
37. W6049
38. W4054A, W4075
39. F6 (4)
40. G1
41. F2 (4)
42. O1
43. U7, U6, U5
44. U1

#### Caliber .44-40

One headstamped .44-40 caliber cartridge case (W4AA38E) was found. It is headstamped with the Remington UMC (Union Metallic Cartridge Company) trademark, a post-1913 ammunition manufacturer. A second cartridge case (N8) is a non-headstamped boxer primed case.

The .44-40 cartridge was first introduced in 1873 along with the lever action Model 1873 Winchester Repeating Rifle. The Model 1873 was a great improvement over the Henry and Model 1866 because it had been adapted to handle the heavier centerfire cartridge, which could be reloaded. This model was produced in three variations, rifle, carbine, and musket. The .44-40 was, and continues to be, a popular cartridge. It has seen wide use and many different firearms were chambered for the cartridge. It is said the caliber has killed more game big and small and more men good and bad than any other cartridge manufactured (Barnes 1989:61).

### Colt and Smith and Wesson Schofield .45-Caliber

There are two bullets in .45-caliber (111E, BB-E5002) that are consistent with being fired in a Colt revolver, Model 1873 or later. There is also a complete cartridge, a Berdan primed non-headstamped round in the collection.

### Caliber .45-60

One cartridge case in .45-60-caliber was found (29E). The .45-60 round was introduced in 1879 for the Winchester Model 1873 rifle and carbine (Barnes 1989:134). The round stayed in production until 1935. The case is boxer primed and head stamped **WRA CO/45-60**. This headstamp is a post-1880 Winchester headstamp.

### Springfield .45/55 and .45-70-Caliber

The collection contains cartridges (AA66E, AA67E, AA68E, AA69E, AA70E), cartridge cases (AA15, AA16E, AA26E, SCAA51E, A18E, INF002E, INF058, CAV062), and bullets (AA55E, AA21E, 22E, M T8E, C7E, BB75, BB6-004) in .45-caliber and of the type manufactured by the U.S. Army. These cartridges were designed for use in the army in the Model 1873 Springfield carbine and rifle. The .45-55 carbine cartridge does not differ from the .45-70 rifle cartridge, issued to the infantry, except that the case was filled with only fifty-five grains of black powder. In order to keep the smaller powder volume compacted, ordnance personnel developed a wad for the carbine load. Later, experiments used a cardboard tube liner in place of the wad (War Department 1875).

### .50-Caliber Round Ball

A single round ball in .50-caliber (BB-4-B) is present in the collection. Markings are too indistinct to determine weapon type.

### Caliber .50-70

The .50-70 cartridge was developed for the army's first service-wide adoption of a cartridge weapon (Hammer 1971) in 1866. The round was used in various Springfield model rifles and carbines from 1866 to 1873. It was also a very popular commercial cartridge, with Sharps, Remington, and other arms manufacturers, chambering single shot firearms for this caliber (Logan 1959). The army also had 33,734 Sharps percussion

weapons converted to fire .50-70 cartridges (Sellers 1978:181-182). This cartridge is .50-caliber with 70 grains of black powder as a propellant and a 450-grain conical lead bullet. The .50-70 cartridge was the subject of much experimentation in developing a reliable and satisfactory center-fire primer. There are over twenty varieties of primers known. The most common are: internally primed Martin Bar, Disk-anvil, and Benet Cup; externally primed Berdan, Boxer, Martin Folded-head, and Millbank for Winchester made ammunition. The Baker Battlefield collection is dominated by the Bar primed cartridge cases, although there are Martin folded head primed cases, and Benet cup primed cases.

A few complete cartridges are found in the collection including AA61E (Benet primed) AA62E (Benet primed), AA63E (Bar primed), AA64E (Bar primed), AA65E (Bar primed), SC102E (Bar primed), and WS028 a misfire cartridge fired in a Sharps.

Many of the .50-70 cartridge cases could not be examined for class or individual characteristics due to oxidation and corrosion.

Examination of the better preserved examples indicates there are three types of weapons presents, Springfield Model 1866 rifles, Springfield Model 1868 or 1870 (external design changes between these types), and Sharps firearms.

The cartridge cases represent the following weapons by type (more than one specimen number indicates a firing pin match with the listed cases):

#### 1866 Springfield

1. C31E, 76E
2. W4AA34E
3. W4, V6
4. W6013
5. 93

#### 1868 or 1870 Springfield

1. AA1E
2. AA82E
3. WS060

#### Sharps

1. 79E, W6047
2. AA6E
3. AA5E
4. 78E
5. P2E
6. 1-P, E6056, W6012
7. R-2E



8. MT88 (large display case)
9. W6AA39E N7
10. 1-M

The standard .50-70 bullet was a 450-grain lead slug. There are several varieties of bullets, a solid base, a solid raised base, and a hole in the base, which are common variations of U.S. Government pressings or swaging runs. A smooth-bodied bullet with a solid base (25E) is a typical Sharps paper patch bullet. There is one .50-caliber bullet that bears land and groove imprints of Winchester rifles (AA4E) that post-dates 1872.

The .50-caliber bullets include (gun type identified in parentheses, if known): AA12E, AA7E, AA80E (Springfield?), B7E (Sharps), AA51E (Springfield), AA10E, AA71E, AA73E, L8E, AA70E, P7E, P9E (Springfield), AA9E, AA62E (Sharps), AA63E (Sharps), 004E (Springfield), AA11E (Springfield), AA13E (Springfield), AA15E (Springfield), AA16E (Springfield), AA23E, (Springfield), AA67E (Springfield), 26E (Sharps), AA79E (Sharps), 82E (Sharps), AA24E (Springfield), 115E (Springfield), 116E (Springfield), 117E, 118E (Springfield), BB-E4013 (Springfield), BB-E4014 (Springfield), BB-E4015 (Springfield), BB-4-A (Springfield), BB-W4003, BB-73 (Sharps), BB-74 (Springfield), BB-W4035 (Springfield), BB-E6053 (Springfield), BB-W6059 (Sharps), BB-1-F (Springfield), BB-1-Y, BB-6-001 (Springfield), BB-6-002 (Springfield), BB-E4020 (Springfield), BB-E4021 (Springfield), BB-E4022 (Sharps), BB-E4024 (Springfield), BB-E6003 (Springfield), BB-E6004 (Springfield), BB-E6-004 (Springfield), BB-E5001 (Springfield), BB-X-5 (Springfield), BB-X-6 (Springfield), BB-X-7 (Springfield), BB-X-8 (Springfield), BB-E4001 (Springfield), BB-E4002 (Springfield), BB-E4003 (Springfield), BB-E4004 (Springfield), BB-E4005, BB-E4006, BB-119 (Springfield), BB-120 (Springfield), BB-121 (Springfield), BB-123 (Springfield), BB-124 (Springfield), BB-V-1 (Sharps), BB-V-8 (Springfield), BB-4-81 (Sharps), BB-4-83 (Springfield), BB-4-84 (Springfield), BB-4-85 (Springfield), BB-4-86 (Springfield), BB-4-87 (Springfield), and five additional bullets with no number assigned.

#### .54-Caliber Round Ball

A single specimen (AA66E) of a .54-caliber round ball is present. No distinguishing characteristics are present.

#### 56-.56 and 56-.50 Spencer

The Spencer seven-shot repeater was a military firearm used during the Civil War and the early Indian Wars. It was also produced in civilian models, was widely available, and a popular weapon. There were several calibers produced for both military and the commercial market during its production years (Barnes 1989:281; Gluckman 1965:388). The Spencer carbine was introduced in 1863 for use by Union cavalry. The earlier rifled musket had proven very popular with Michigan cavalry units although the length was unwieldy for cavalrymen. Nearly 95,000 Spencer carbines were purchased by the U.S. government prior to the end of the war, and they proved very popular with mounted troops (Coates and Thomas 1990:48). The Spencer repeating rifle and carbine were originally chambered for the reliable Spencer 56-.56-caliber rimfire cartridge. In 1864 Spencer's Army contracts were modified to have the chamber and bore reduced in size for the smaller diameter 56-.50-caliber cartridge. The Model 1865 carbine and rifle emerged (Marcot 1983:81).

The Army cancelled its contracts for further procurement of additional Spencer patent repeaters in late 1865. However, the final deliveries under existing contracts did not occur until 1866. Unlike most cartridge designations where caliber is listed first and black powder load second (e.g. .45-70) the Spencer designation is based on other nomenclature. The 56 in the 56-.50 cartridge refers to an old designation for the ammunition of **No. 56 Spencer** ammunition. The appellation remained and was applied to the .50-caliber ammunition as well. The Spencer 56-.50 cartridge is a .50-caliber copper rimfire case 1 5/32 inches long, containing a 45 grain black powder load that propels a 305 grain conical lead bullet.

Both 65-.56 and 56-.50-caliber varieties were recovered at Baker Battlefield. The 56-.56 caliber predominates. A few bullets that were fired in Spencers were also recovered, including: .50-caliber BBE4019, and .56 caliber BBWSTL201 as well as .56-caliber SCO06

All but one of the cartridges cases are the non-headstamped variety, probably Frankfort Arsenal manufacture, although this attribution is not entirely certain. Only one cartridge and one cartridge case were recovered, SCO03 and SCO012 respectively, that are headstamped with the impressed letters **S.A.W.** denoting manufacture by the Sage Ammunition Works. Dennis C. Sage and his Sage Ammunition Works contracted with the Army to supply Spencer cartridges beginning early in 1864. His last delivery of Spencer ammunition is not precisely known, but the company ceased operations in 1866 (Barber 1987:34-35).

The guns represented by the Spencer cartridge cases are:

56-.56 caliber:

1. A2/095E, A1/097E
2. A6/101E
3. A5/090E, G-2
4. A7/100E

5. B2E
6. N-6
7. I-S
8. I-Q
9. I-R

56-.50 caliber:

1. 53E, W4027
2. 54E
3. E6055 (4,33)

.58-Caliber Round Ball

A single specimen (BB-WSTL301) of a .58-caliber round ball is present. No distinguishing characteristics are present.

## References Cited

Barber, John L.  
1987 *The Rimfire Cartridge in the United States and Canada 1857-1984*. Armory Press, Tacoma, WA.

Barnes, Frank C.  
1989 *Cartridges of the World 6th Edition*. DBI Books, Northbrook, IL.

1997 *Cartridges of the World 8th Edition*. DBI Books, Northbrook, IL.

Brophy, William S.  
1980 *The Krag Rifle*. Bienfield Press, North Hollywood, California.

Coates, Earl J. and Dean S. Thomas  
1990 *An Introduction to Civil War Small Arms*. Thomas Publications, Gettysburg.

Gluckman, Arcadi  
1965 *Identifying Old U.S. Muskets, Rifles, and Carbines*. New York: Bonanza Books.

Gunther, Jack Disbrow and Charles O. Gunther  
1935 *The Identification of Firearms*. John Wiley and Sons, London.

Hackley, F. W., W. H. Woodin, and Eugene L. Scranton  
1967 *History of Modern U.S. Military Small Arms Ammunition*. New York: Macmillan.

Hammer, Kenneth M.  
1970 *The Springfield Carbine on the Western Frontier*. Old Army Press, Bellevue, NE.

Harmon, Dick  
1987 *Henry .44 Caliber. Archaeological Insights to the Custer Battle* by Douglas D. Scott and Richard A. Fox Jr. Norman: University of Oklahoma Press.

Harris, C. E.  
1980 *Sherlock Holmes Would Be Impressed*. *American Rifleman* 128(5):36-39,82.

Hatcher, Julian, Frank J. Jury, and Jack Weller  
1977 *Firearms Investigation, Identification and Evidence*. Harrisburg, Pa.: Stackpole Books.

Hoyem, George A.  
1981 *Historical Development of Small Arms Ammunition*. Vol 1. Tacoma, Wash.: Armory Publications.

Kinzer, James B.

1983 The Invention of the Extractor: The Successful Winchester Repeating Rifle. *Gun Report* 28(8).

Logan, Herschal C.  
1959 *Cartridges*. New York: Bonanza Books.

Madis, George  
1985 *The Winchester Book*. Brownsboro, Tex.: Art and Reference House.

Marcot, Roy M.  
1983 *Spencer Repeating Firearms*. Irvine, Calif.: Northwood Heritage Press.

McDowell, R. Bruce  
1984 *Development of the Henry Cartridge*. Metuchen, N.J.: A.M.B.

Sellers, Frank  
1978 *Sharps Firearms*. North Hollywood, Calif.: Beinfield Publishing.

War Department  
1875 *Comparison of "Lined" with "Wad" Carbine Cartridges*. Ordnance Notes, No. 43, Washington, D.C.

Williamson, Harold F.  
1952 *Winchester: The Gun That Won the West*. New York: A. S. Barnes.

## Figures



Figure 1. A match of firing pin imprints and breechface marks on two .44-rimfire cartridge cases fired in a Henry or model 1866 Winchester rifle. The upper one is specimen J1e and the lower is W4202.

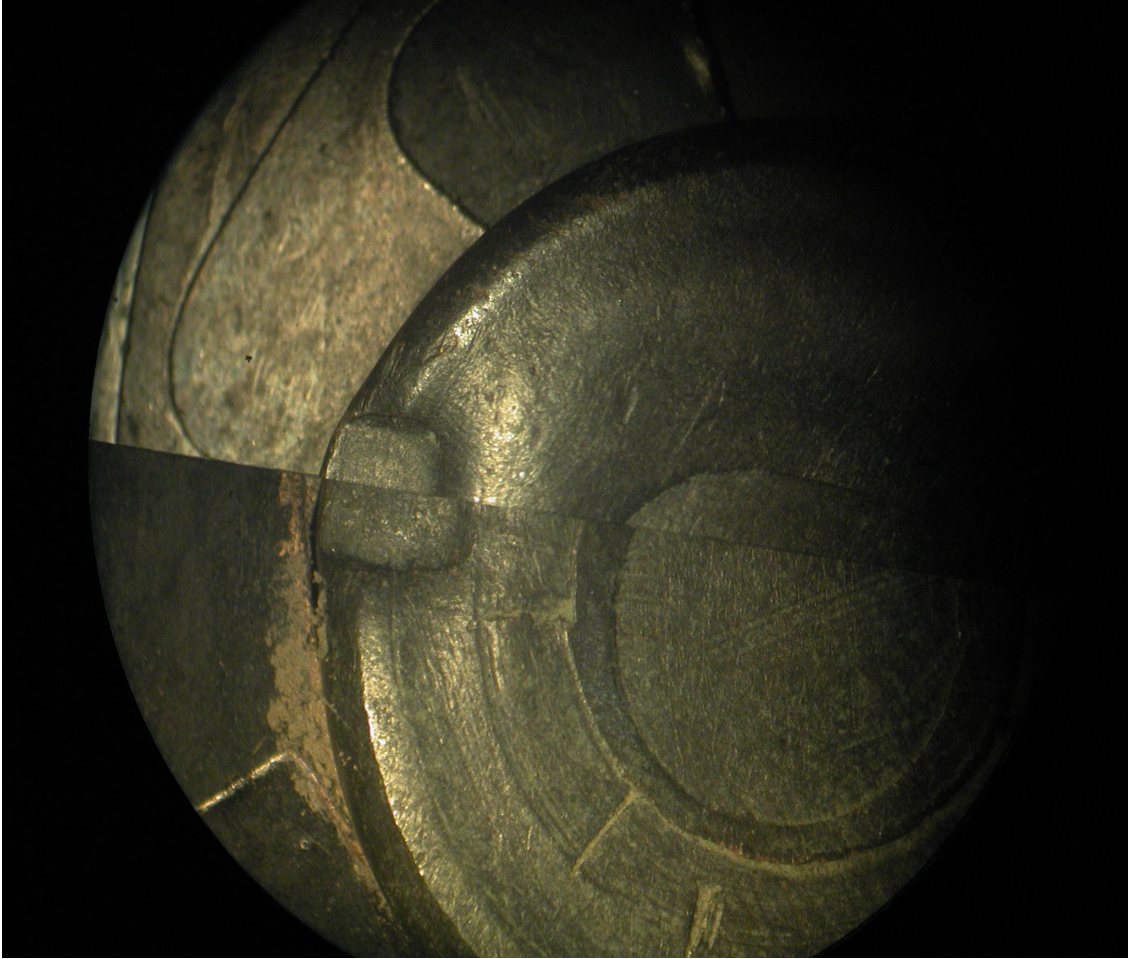


Figure 2. Two .44-caliber rimfire single block firing pin imprints. The upper one was fired in a Ballard and the lower on was fired in a Smith and Wesson firearm.





Figure 3. Various caliber bullets. Upper row, .36 ball, two .44-caliber conical bullets, .50-caliber ball, lower row, various .50-caliber conical bullets.



## **Appendix B: List of Officers and Civilians who participated in Baker's Expedition**

### **a: Officers, Civilians, and other participants not listed in the unit musters of the 2<sup>nd</sup> Cavalry and 7<sup>th</sup> Infantry**

<b>PARTICIPANTS</b>	<b>COMPANY</b>	<b>HOME STATION</b>
1. Bvt Lt. Col (Major) E. M. Baker	BN CDR, 2 <sup>nd</sup> Cav.	Fort Ellis
2. Cpt. G.L. Tyler	Co. F, 2 <sup>nd</sup> Cav.	Fort Ellis
3. 1 <sup>st</sup> Lt. F. C. Grugan	Co. F, 2 <sup>nd</sup> Cav.	Fort Ellis
4. Cpt. S.H. Norton	Co. G, 2 <sup>nd</sup> Cav.	Fort Ellis
5. 1 <sup>st</sup> Lt. G. C. Doane	Co. G, 2 <sup>nd</sup> Cav.	Fort Ellis
6. 2 <sup>nd</sup> Lt. E.J. McClermand	Co. G, 2 <sup>nd</sup> Cav.	Fort Ellis
7. Cpt. Edward Ball	Co. H, 2 <sup>nd</sup> Cav.	Fort Ellis
8. 2 <sup>nd</sup> Lt. L. H. Jerome	Co. H, 2 <sup>nd</sup> Cav.	Fort Ellis
9. Cpt. L.C. Thompson	Co. L, 2 <sup>nd</sup> Cav.	Fort Ellis
10. 1 <sup>st</sup> Lt. S. T. Hamilton	Co. L, 2 <sup>nd</sup> Cav.	Fort Ellis
11. 2 <sup>nd</sup> Lt. C. B. Schofield	Co. L, 2 <sup>nd</sup> Cav.	Fort Ellis
12. Asst. Surgeon Clarence Ewen	2 <sup>nd</sup> Cavalry	Fort Ellis
13. 1 <sup>st</sup> Lt. Quinton	Co. C, 7 <sup>th</sup> Inf.	Fort Shaw
14. 1 <sup>st</sup> Lt. Reed	Co. E, 7 <sup>th</sup> Inf.	Fort Shaw
15. Cpt. G. L. Browning	Co. G, 7 <sup>th</sup> Inf.	Fort Shaw
16. 2 <sup>nd</sup> Lt. H.A. Irgens	Co. G, 7 <sup>th</sup> Inf.	Fort Shaw
17. Cpt. C.C. Rawn	Co. I, 7 <sup>th</sup> Inf.	Fort Shaw
18. 1 <sup>st</sup> Lt. W. Logan	Co. I, 7 <sup>th</sup> Inf.	Fort Shaw
19. 1 <sup>st</sup> Lt. J. F. Jacobs	Regimental QM	Fort Shaw
20. Maj. J. W. Barlow	Corps of Engineers	Chicago, Ill
21. Mr. J.A. Haydon	Chief Survey Eng.	Chicago, Ill.
22. Mitch Bouyer	Half-Sioux Guide	Crow Agency
23. Thomas LeForge	Citizen	Crow Agency
24. George Herendeen	Citizen	Crow Agency
25. Joe Hozay	Citizen	Crow Agency
26. Paul McCormick	Wagon Master	Montana
27. Matt Carroll	Freighting	Montana
28. Citizen William Francis	Citizen	Montana
29. Frank "Buckskin" Williams	Citizen	Montana
30. Richard Davis	Citizen	Montana
31. George Ray	Citizen	Montana
32. Jack Gorman	Citizen	Montana
33. Herbert Williams	Citizen	Montana

34. Augustus Callahan	Citizen	Montana
35. Felix G. Ingram	Citizen	Montana
36. Messenger Maclay	Citizen	Unknown
37. Messenger Broadwater	Citizen	Unknown

The following enlisted men on detached service to Yellowstone Expedition, 7<sup>th</sup> Infantry, July 13<sup>th</sup>, 1872 are not accounted for on the 7<sup>th</sup> Infantry muster rolls for July 30<sup>th</sup> through August 31, 1872. (National Archives Record Group 94) These men are listed in the 7<sup>th</sup> Infantry Regimental Returns, August 1872 (National Archives Record Group 393).

**Company “K”, 7<sup>th</sup> Infantry**

Sergeant Wilques  
Private J. Hanman  
Private C. McCleary

**b: Muster Rolls of the 2<sup>nd</sup> Cavalry and 7<sup>th</sup> Infantry**

The following muster rolls of the 2<sup>nd</sup> Cavalry and 7<sup>th</sup> Infantry are dated from the 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872. This information was taken from original rolls copied in microfilm form. Some of the names were difficult to decipher. The authors have studied the names carefully and have done their best to produce the following lists with as few errors as possible. Notes of casualties occurring in August through October, 1877 were found in Jerome Green's *Nez Perce Summer 1877*. Those soldiers who remained at posts rather than in the field have been omitted from the company muster rolls.

**Muster Roll of Captain Geo. L. Tyler (Co. F, 2<sup>nd</sup> Cavalry)**

**From 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872**

1. Geo. L. Tyler	Captain
2. F.C. Grugan	1 <sup>st</sup> Lieutenant
1. John O'Kelly	1 <sup>st</sup> Sergeant
1. William Baker	Quartermaster Sergeant
3. John W. Ponsford	Sergeant
4. John R. Nelson	Sergeant
5. Alexander B. Brunner	Sergeant
6. Thomas Wallace	Sergeant
7. William Leipler	Sergeant
1. Thomas Gayham	Corporal
2. Daniel J. Daly	Corporal
1. John Sweeney	Trumpeter
2. Charles Moore	Trumpeter
1. Joseph Baker	Blacksmith
1. Michael Cahill	Farrier
1. George Boyle	Private
2. Charles Bulk	Private
3. Claus Brummer	Private
4. Thomas Coulston	Private
5. Abel Cox	Private (Wounded at battle on Yellowstone, sick in hospital)
7. Edward Class	Private
8. Samuel L. Colle	Private
9. Richard Davis	Private
10. John Dougan	Private
11. James Ellis	Private
12. John Hall	Private
13. Heris (sic) Kersey	Private
14. Christie Kaiser	Private
15. Edward Kelly	Private
16. Edwin A. Kenney	Private
17. William Lennon	Private
18. Charles Leslie	Private
19. Daniel Mirron	Private
20. Gail J. Olsen	Private

21. Timothy Quinn	Private
22. Christopher Sipfer	Private
23. Daniel C. Starr	Private
24. James Smith	Private
25. William Wolff	Private
26. James Watson	Private
27. John A. Young	Private

Loss Discharged

31. Amos A. Wise	Wagoner (Discharged in the field on Musselshell River)
32. William Sharver	Private (Discharged Aug. 27, 1872 at Fort Ellis)

**Muster Roll of Captain Seneca H. Norton (Co. G, 2<sup>nd</sup> Cavalry)  
From 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872**

1. Seneca H. Norton	Captain
2. Gustavus C. Doane	1 <sup>st</sup> . Lieutenant
3. Edward J. McClermand	2 <sup>nd</sup> Lieutenant
1. Richmond D. George	1 <sup>st</sup> Sergeant
2. William Waydinell (sic)	Quartermaster Sergeant
3. John Shea	Sergeant
4. Oscar R. Cornwall (sic)	Sergeant
5. Daniel Reynolds	Sergeant
1. Tabias Carty	Corporal
2. Henry Hautile	Corporal
3. David Whilpkey	Corporal
1. Edward Page	Trumpeter
2. Thomas Smith	Trumpeter
1. William P. Downing	Farrier
2. William F. Reese	Blacksmith
3. Francis Donner	Saddler
4. Edward Muldoon	Wagoner
1. Latrobe Bronmmell	Private
2. David J. Bunning	Private
3. Asher Daney	Private
4. John Deady	Private
5. John Dale	Private
6. John Elmor	Private
7. Jacob Forner	Private
8. William Hardy	Private
9. Thomas Hanton	Private
10. John Irving	Private
11. Henry Mound	Private
12. John Murta	Private
13. Charles Mullis	Private
14. Henry Neidinggard	Private
15. Andrew Pitcher	Private
16. James Ratchford	Private
17. Robert Somers	Private
18. Harry H. Smkei	Private
19. Merit G. Vail	Private

- |                        |         |
|------------------------|---------|
| 20. Latlief Gotleib    | Private |
| 21. Charles Webber     | Private |
| 22. Augustus Wagoner   | Private |
| 23. Mellville Whiteman | Private |

Note:

Sergeant Edward Page was killed at the Big Hole Battle (August 9-10, 1877)

Private John Irving was killed at the Bear's Paw Battle (September 30-October 5, 1877)

**RG 94 Regular Army Muster Rolls, 2<sup>nd</sup> US Cav. 1872 Company G, Box 902**  
**Muster Roll of Captain Ball (Co. H, 2<sup>nd</sup> Cavalry)**  
**From 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872**

1. Edward Ball	Captain
3. Lovell H. Jerome	2 <sup>nd</sup> Lieutenant

1. Charles Cooper	1 <sup>st</sup> Sergeant
2. John E. Davis	Sergeant
3. Edward L. Turke	Sergeant
4. Joseph F. Farrell	Sergeant
5. Asa Merrill	Sergeant
6. James Merrard	Sergeant
7. George Boyd	Sergeant

1. James Beverley	Corporal
2. James Dunwoody	Corporal
3. Alexander Beard	Corporal
4. Samuel Cook	Corporal

1. Henry Hankins	Bugler
2. William J. Shein	Bugler

1. Joseph H. Hobson	Sadler
1. George Overman	Wagoner

1. John O'Bryant	Blacksmith
2. Mike Shurtz	Farrier

1. Edward Affleback	Private
2. Adolph Arnold	Private
3. Adolph Berlizhiemer	Private
4. Howard J. Bennett	Private
5. Alfred Bonldin	Private
6. Mathew P. Banning	Private
7. William H. Campbell	Private
8. Thomas Devine	Private
9. James Donovan	Private
10. Marlin Dooly	Private
11. Morris Doody	Private
12. Adam Eckstein	Private
13. Thomas Hevern	Private
14. Daniel Huston	Private
15. William Keating	Private
16. John Kern	Private



17. Robert Longhridge	Private
18. Maurice Molloy	Private
19. William Mahaffley	Private
20. Isaac N. Jr. Mules	Private
21. John O'Brien	Private
22. Thomas Porter	Private
23. Clifford Pearson	Private
24. Henry Rahmener	Private
25. Richard Smith	Private
26. Fredrick Strassburger	Private
27. Francis Steward	Private
28. John Schmidt	Private
29. Henry Schargenstein	Private
30. Thomas Sherlin	Private
31. John B. Warren	Private
32. Frank Whitney	Private
33. Edward Wells	Private

Discharged

1. John H. Schafer	Private (discharged Aug 23, 1872 at final station)
2. Philo H. Shepard	Private (discharged Aug 24, 1872 at final station)

**Muster Roll of Captain Lewis Thompson (Co. L, 2<sup>nd</sup> Cavalry)  
From 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872**

1. Lewis Thompson	Captain
2. Samuel T. Hamilton	1 <sup>st</sup> Lieutenant
3. Charles B. Schofield	2 <sup>nd</sup> Lieutenant
1. Henry Wilkins	Quartermaster Sergeant
2. Clifford St. Clair	Sergeant
3. Richard P. Hawley	Sergeant
4. David Plu_ (unreadable)	Sergeant
5. John Gilligan	Sergeant
1. Charles Shawson	Corporal
2. Joseph B. Horton	Corporal
3. Husif Rider	Corporal
4. Marshall Leucker	Corporal
1. Robert Fowler	Bugler
1. William Gleu	Farrier
2. John B. Newell	Blacksmith
1. Edward A. Burus	Saddler
1. Charles Egert	Wagoner
1. Victor Buschelberg	Private
2. Thomas Crawford	Private
3. Abraham P. Drost	Private
4. Louis Disborough	Private (retained after expiration of services on account of the impracticability of leaving the command as hostile and unsettled country.)
5. Peter Escheleau	Private
6. Thomas Galoric	Private
7. James Girvin	Private
8. Joseph A. Galareau	Private
9. Louis Galareau	Private
10. Theodore Gereau	Private
11. John Gorton	Private
12. John Geuessy	Private
13. William Lowes	Private
14. Louis Leway	Private
15. Daniel Murphy	Private
16. Maurice Murphy	Private

17. James Morris	Private
18. Hugh McLeau	Private
19. John Marlin	Private
20. Charles Purcell	Private
21. George Robinson	Private
22. Isaac Ryan	Private
23. Jeremiah Sullivan	Private
24. John Thompson	Private
25. John Ward	Private (Wounded in action with Indians on Yellowstone River, M.T. Aug. 14, 1872, Present sick in hospital)
26. Frank Williams	Private
27. William Wilkinson	Private
28. Charles Weston	Private
29. Joseph Zwisler	Private

Discharged (By reason of Expiration of Service)

1. John Dolan	Wagoner
2. Francis Wirth	Bugler

Note: Quartermaster Sergeant Henry Wilkins was wounded at the Camas Meadows Battle (August 20, 1877)

**RG 94 Regular Army Muster Rolls, 2<sup>nd</sup> US Cav. 1872 Co. L, Box 910**



Attached

- |                          |  |
|--------------------------|--|
| 1. Wilquel Nichoel (sic) | Sergt (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry)   |
| 2. Daniel Wilmeyer       | Sergt (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry)   |
|                          |  |
| 1. Louis Hines           | Corpl (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry)   |
|                          |  |
| 1. Joseph Dohm           | Private (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry) |
| 2. Walter Garlock        | Private (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry) |
| 3. John Garran (sic)     | Private (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry) |
| 4. Perry P. Terry        | Private (attached to Co. from Co. "D", 7 <sup>th</sup> Infantry) |
| 5. James Scanlon         | Private (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry) |
| 6. William Sirron        | Private (attached to Co. from Co. "K", 7 <sup>th</sup> Infantry) |

**Muster Roll of Captain Robert Chandler (Co. E, 7<sup>th</sup> Infantry)  
From 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872**

1. William Reed	1 <sup>st</sup> Lieutenant
1. Samuel Bellen	1 <sup>st</sup> Sergeant
3. John Harbison	Sergeant
1. Daniel Wallace	Corporal
2. Christopher Mullins	Corporal
3. John Taylor	Corporal
1. Charles Bullard	Private
2. William Buck	Private
3. John Berry	Private
4. James Bell	Private
5. Henry Bullinger	Private
7. James B. Burnes	Private
9. Oscar Church	Private
11. Patrick Fallon	Private
12. Michael Fallon	Private
13. John Fallon	Private
14. William Funk	Private
15. Peter Ganses (sic)	Private
16. William Gray	Private
18. William Hayden	Private
19. Francis Honniker	Private
20. William Hensley	Private
21. August Hickman	Private
24. Thomas James	Private
25. Michael Kelly	Private
27. Thomas Mullin	Private
28. Lewis Mercer	Private
29. Thomas O'Malley	Private (sick, wounded in action with Indians on the Yellowstone River, Aug. 14, 1872)
31. John Rafferty	Private
33. James Shea	Private
35. Thomas Stevenson	Private
36. Penbrook Sutton	Private
37. John Vulic	Private
38. Charles Vertan (sic)	Private
39. James A. Wundruff	Private
40. Charles L. Wallin	Private

Attached

1. William D. Edwards                      Sergt (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)
  
2. John Murlagh                              Corpl (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)
  
3. William Buly                              Corpl (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)
  
  
4. John Boverce (sic)                      Private (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)
  
5. Thomas Cullar (sic)                      Private (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)
  
6. Thomas Cox                              Private (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)
  
7. Frederick Keilhaur (sic)                Private (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)
  
8. John Roberts                              Private (attached from Co. "F", 7<sup>th</sup> Infantry, July 11, 1872)

Notes:

Private James Bell was wounded at the Big Hole Battle (August 9-10, 1877)  
Private Patrick Fallon was wounded at the Big Hole Battle (August 9-10, 1877)

**RG 94, Regular Army Muster Rolls, 7<sup>th</sup> US Inf. 1872 Co. E Box 208**

**Muster Roll of Captain George L. Browning (Co. G, 7<sup>th</sup> Infantry)  
From 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872**

1. George L. Browning	Captain
2. Henry A. Irgens	2 <sup>nd</sup> Lieutenant
1. Fred W. Miscer	Sergeant
2. Donald B. Martson	Sergeant
3. John Wilkinson	Sergeant
4. Robert L. Edgworth	Sergeant
5. John W. Frederic (sic)	Sergeant
1. James Fleming	Corporal
2. John Hall	Corporal
1. William Aubrey	Private
2. William Brannan	Private
3. William E. Brown	Private
6. John Bradley	Private
7. Michael Curley	Private
8. Alfred Comstock	Private
9. John Darothy	Private
10. Charles Davis	Private
11. Thomas Doyle	Private
12. Charles Elmer	Private
13. George O. Hodges	Private
14. Robert Hyland	Private
15. John Harvie	Private
16. Cornelius Kearney	Private
17. Jacob Lonno	Private
18. William H. Martin	Private
19. Thomas Monaghan	Private
20. Daniel Marris	Private
21. William P. McKeever	Private
22. Patrick McGrudden	Private
23. Frank McHugh	Private
24. Edward S. Quigley	Private
25. Charles H. Shuter	Private
26. Henry Weaver	Private
27. John Winstone	Private
28. Joseph A. Widmer	Private

Attached



- |                      |   |
|----------------------|---|
| 1. Albert Watson     | Sergt (attached from Co. "F", 7 <sup>th</sup> Infantry)   |
| 2. Jeremiah Wells    | Sergt (attached from Co. "F", 7 <sup>th</sup> Infantry)   |
|                      |   |
| 1. Thomas Jackson    | Corpl (attached from Co. "F", 7 <sup>th</sup> Infantry)   |
|                      |   |
| 1. William Daniel    | Private (attached form Co. "F", 7 <sup>th</sup> Infantry) |
| 2. Louis F. Kelly    | Private (attached from Co. "F", 7 <sup>th</sup> Infantry) |
| 3. Austin Mettleton  | Private (attached from Co. "F", 7 <sup>th</sup> Infantry) |
| 4. John Price        | Private (attached from Co. "F", 7 <sup>th</sup> Infantry) |
| 5. Samuel Parker     | Private (attached from Co. "F", 7 <sup>th</sup> Infantry) |
| 6. William H. Smain  | Private (attached from Co. "F", 7 <sup>th</sup> Infantry) |
| 7. Swearerger Parker | Private (attached from Co. "F", 7 <sup>th</sup> Infantry) |

Note: Sergeant Robert L. Edgeworth was killed at the Big Hole Battle (August 9-10, 1877)

**RG 94 Regular Army Muster Rolls, 7<sup>th</sup> US Inf. Co. G Box 212**

**Muster Roll of Captain Charles C. Rawn (Co. I, 7<sup>th</sup> Infantry)  
From 30<sup>th</sup> day of June to the 31<sup>st</sup> day of August, 1872**

1. Charles C. Rawn	Captain
2. William Logan	1 <sup>st</sup> Lieutenant

1. William Neabuhr	1 <sup>st</sup> Sergeant
2. Patrick C. Daly	Sergeant
3. Thomas Downey	Sergeant
4. James B. O’Niell	Sergeant

1. Edwin R. Short	Corporal
2. William W. White	Corporal
3. Charley Meinart	Corporal
4. Edward Mahoney	Corporal

1. James W. McGuire	Musician
2. William H. Smith	Musician
1. Robert Reynolds	Artificer
1. Frederick Seegar (sic)	Wagoner

1. Jessy Angle	Private
2. Patrick Basquill	Private
3. John Busch	Private
4. David Evans	Private
5. William Lovell	Private
6. Thomas McCarthy	Private
7. Peter Moan	Private
8. Richard Moffitt	Private
9. Charles Nugent	Private
10. Samuel Price	Private
11. August Schaffer	Private
12. Henry Scott	Private
13. Walter Seldden	Private
14. John W. Short	Private
15. Richard Van Schravendyh	Private
16. William Webb	Private
17. John Wesley	Private
18. John Wilkins	Private
19. James Wilson	Private

Gain

1. Irwin Harrington	Corpl (attached from Co. "D", 7 <sup>th</sup> Infantry)
2. Samuel Wurthbaugh	Corpl (attached from Co. "D", 7 <sup>th</sup> Infantry)
3. William H. Fry	Corp (attached from Co. "D", 7 <sup>th</sup> Infantry)
1. Benjamin Antrine (sic)	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
2. Arthur J Byrns	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
3. Henry Cassady	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
4. Shuler M. Carson	Private (attached from Co. "D", 7 <sup>th</sup> Infantry,
5. Stephen Lever	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
6. Fred P. McCadden	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
7. William McElhinney	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
8. William D. Pomeroy	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
9. Frank Pratt	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
10. Sabirt Scott	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)
12. John Stormes (sic)	Private (attached from Co. "D", 7 <sup>th</sup> Infantry)

Notes:

1<sup>st</sup>. Lieutenant William Logan was killed at the Big Hole Battle (August 9–10, 1877)  
 Private James Burns was wounded at the battle of the Big Hole (August 9-10, 1877)

**RG 94 Regular Army Muster Rolls, 7<sup>th</sup> US Inf. Co. I Box 216**

**c: Sioux and Cheyenne Participants in the Battle of Arrow Creek (Baker's Battle), August 14, 1872**

1. Sitting Bull (Hunkpapa)
2. Black Moon (Hunkpapa)
3. Two Crow (Hunkpapa)
4. Strikes-the-Kettle (Hunkpapa)
5. Old Bull (Hunkpapa)
6. Crawler (Hunkpapa)
7. Circling Hawk (Hunkpapa)
8. Crazy Horse (Oglala)
9. Four Bears (Two Kettle)
10. Circling Bear (Sans Arc)
11. Long Dog (Sans Arc)
12. Spotted Eagle (Sans Arc)
13. Steamboat (Minneconjou)
14. Little Bull (Minneconjou)
15. White Bull (Minneconjou)
16. Thunder Hoop (Minneconjou or Two Kettle)
17. Ghost Heart
18. Brave Heart
19. Charging Eagle
20. Feather Earring
21. Bear Loves
22. Gets the best of Them
23. Red Thunder
24. Hunts for the Bear
25. Many Dogs
26. Wrinkled
27. Black Shield
28. Bull Eagle
29. Running-Enemy
30. In-the-Front
31. Running Bear
32. Charging Hawk
33. Two Spears
34. Horned Thunder
35. A brother of "Bull Eagle" – Cheyenne Agency, Dakota Territory
36. A brother of "Four Bears" – Cheyenne Agency, Dakota Territory

**Wounded during the fight on the Yellowstone**

37. High Hawk (Brule)

38. High Hawk (Minneconjou)
39. Long Holy
40. Leading Him
41. With Horn
42. Takes-the-bread With Horn
43. White Horn also named Runs-Against
44. Good Weasel
45. Hawk Dog (Spotted Tail's Brother) mortally wounded, died at camp

**Killed during the fight**

46. Lame Deer's nephew ( Minneconjou)
47. Plenty Lice (Hunkpapa)

**Notes:** Whitebull and Little Bull drew rations as Minneconjou Sioux at Cheyenne Agency during November 1871

Four Bears and Thunder Hoop drew rations as Two Kettle Sioux at Cheyenne Agency during November 1871.

Note: The Principle Investigators have researched the tribal affiliations of the Native American participants. Please notify us of any errors. The references used are as follows: The books of Joseph Campbell, Cheyenne River, Red Cloud, and Grand River Agency records (1871 – 1872).

## **Appendix C: Baker's Battle on the Yellowstone, August 14, 1872 Participant**

### **Biographies**

The information in this section related to the officers in the United States Military was taken from Francis B. Heitman's *Historical Register and Dictionary of the United States Army Vol. 1 and Biographical Register of the Officers and Graduates of the U.S. Military Academy at West Point, N.Y. From its Establishment in 1802 to 1890, With the Early History of the United States Military Academy* Third Edition Revised and Extended Vol. III No's 2001 to 3384 by Brevet. Maj. Gen. George W. Cullum. Other sources used in reference to the U.S. military participants are cited in the report. Additional sources concerning the civilians and Native American participants are listed at the end of each bibliography.

### **A: 2<sup>nd</sup> Cavalry Officers, Companies F, G, H, and L:**

Note: The rank preceding the names indicates the rank held during the Battle on the Yellowstone, August 14, 1872.



Major E. M. Baker, Commander, 2<sup>nd</sup> Cavalry, Fort Ellis,  
Montana Territory, Circa 1871  
**Courtesy of Montana Historical Society, Helena, Montana**

**Major Eugene Mortimer Baker:** Eugene M. Baker was a Brevet Lieutenant Colonel and Commanding Officer of companies "F", "G", "H", and "L" of the 2nd Cavalry, stationed at Fort Ellis during August of 1872. He enrolled at the Military Academy at

West Point on July 1, 1854 and graduated 12th in his class. He was brevetted a 2nd Lieutenant of the 2nd Dragoons on July 1, 1859. He was assigned as a 2nd Lieutenant of the 1st Dragoons on Feb 28, 1860. Baker was promoted to 1st Lieutenant on May, 1861. He was assigned the duty of regimental quartermaster, which he held from December 1861 to January 16, 1862. Baker was promoted to Captain on January 16, 1862. During this time he served with the 1st Cavalry. He was brevetted Major on May 5, 1862 for gallantry and meritorious service at the battle of Williamsburg Va. Baker was brevetted Lieutenant Colonel on September 19, 1864 for gallantry and meritorious service at the battle of Winchester Va. He was brevetted Colonel on December 1, 1868 for zeal and energy while in command of troops operating against hostile Indians in 1866, 1867 and 1868. Baker was promoted to Major and assigned to the 2nd Cavalry on April 8, 1869. He was on leave of absence from July to November 1869. Baker then took command of Fort Ellis, Montana Territory from December 1, 1869 to October 15, 1872. He was in arrest October 15, 1872 to January 11, 1873. Baker was on assigned to Fort Sanders, Wyoming and Omaha, Nebraska from February to March 1873. Major Baker served as a Member of the Board to purchase horses during August 1873. He was assigned the position of commanding officer at Camp Canby, Nebraska, till October 1873. Baker served as Commander of Camp Brown, Wyoming from November 2, 1873, to February 19, 1874. He served as the commander of a Cavalry Column on the Sioux Expedition of February 19 to March 16, 1874. Baker was at Fort Laramie, Wyoming on September 27, 1874. Baker was in command of Camp Brown, Wyoming from October 6, 1874 until November 1875. He was in arrested and underwent sentencing of a General court-martial until January 25, 1882. Major Baker served at Fort Custer, Montana until June 18, 1882, and then transferred to Fort Maginnis, Montana where he served until December 11, 1882. He was sick at that post until January 12, 1883. Baker commanded the Fort Maginnis post until May 1, 1883. He was on sick leave until July 7, 1884. Baker served at Ft. Maginnis, Montana until July 27, 1884. He served at Fort Custer, Montana until May 24, 1884. Eugene M. Baker was at Ft. Walla Walla Wash. Territory on December 19, 1884 when he died a complication of the heart and acute gastritis.



Captain Lewis Cass Thompson, 2<sup>nd</sup> Cavalry  
Courtesy of Montana Historical Society, Helena, Montana

**Captain Lewis Cass Thompson:** Lewis Cass Thompson was the Officer of the Day and commander of Company “L”, 2<sup>nd</sup> Cavalry during Baker’s Battle on the Yellowstone. He enlisted and served as a private in Company “A”, 71st New York State militia from April 21 to July 30, 1861. He was promoted to 2nd Lieutenant, 2nd Cavalry on February 19, 1862. Thompson was promoted to 1st Lieutenant on October 28, 1862. He was promoted to Captain on July 28, 1866. Thompson was brevetted Captain on June 21, 1863 for gallantry and meritorious service in action at Upperville VA and brevetted Major on Sept 35, 1865 for meritorious service during the war. He died on July 19, 1876 in Montana Territory.





1<sup>st</sup> Lieutenant Samuel Todd Hamilton, 2<sup>nd</sup> Cavalry  
Courtesy of Civil War Library & Museum, Mollus, Philadelphia, PA /  
U.S. Army Military History Institute, Carlisle Barracks, Carlisle, PA

**1<sup>st</sup> Lt. Samuel Todd Hamilton:** Samuel T. Hamilton was assigned to Company “L”, 2nd Cavalry during Baker’s Battle on the Yellowstone. He was sent forward to support Lieutenant Logan and the night guard during the early stage of the battle. Hamilton rose from the rank of private, corporal and sergeant of Companies “B” and “I”, 15<sup>th</sup> Pennsylvania Cavalry. He was assigned the duty of commissary sergeant and quartermaster sergeant of Company “B”, 15th Pennsylvania Cavalry from August 22, 1862 until June 21, 1865. Hamilton was promoted to 2nd Lieutenant, 2nd Cavalry on June 18, 1867. He was promoted to 1st Lt. On November 27, 1868. Hamilton was promoted to the rank of Captain on June 14, 1879. Samuel T. Hamilton retired on August 15 1892.



2<sup>nd</sup> Lieutenant Charles B. Schofield  
Courtesy of Montana State University, Special Collections  
Lilla Bogert Collection 2406

**2<sup>nd</sup> Lt. Charles Brewster Schofield:** Charles B. Schofield was assigned to Company “L”, 2<sup>nd</sup> Cavalry during the August 14, 1872 fight on the Yellowstone. At that time he was assigned the duty of Adjutant for Major Baker’s expedition. Schofield was born June 26, 1849 at Freeport, Ill. He was enrolled at West Point from July 1, 1866 to July 15, 1870. Schofield graduated 40th in his class at the Military Academy at West Point. He was promoted to the rank of 2nd Lieutenant and assigned to the 2nd Cavalry on June 15, 1870. He served at Fort Ellis, Montana Territory from October 26, 1870 to July 28, 1872. He served as a witness before a court-martial hearing at St. Paul, Min., from April 27 to July 26, 1871. Schofield was assigned the duty of Adjutant and ordered to escort the Northern Pacific Railroad surveying party from July 28 to September 28, 1872. He participated in the engagement with hostile Indians on August 14, 1872. Schofield participated in scouting from May 24 to September 1875, and participated in the Sioux Expedition from September 29, 1876 to March 24, 1877. He was involved in the Nez Perce Expedition until August 14, 1877. Schofield fought in the Battle of Muddy creek, Montana on May 7, 1877. He remained at Fort Ellis and performed scouting duties from April 4 to July 28, 1878. Schofield was aide-de-camp to Major General Schofield October 18, 1878. He was promoted to 1<sup>st</sup> Lt. 2nd Cavalry on June 14 1879. He arrived in Europe to witness maneuvers of the French Army in on September 1, 1885. He was assigned to Fort Walla Walla, Washington on September 3, 1885. Schofield served as regimental adjutant from May 1, 1886 to January 17, 1889. He was ordered to special duty at Headquarters of the Army, February 8 to March 25, 1889 and Aide-de-Camp to Major General Schofield General-in-Chief, March 26, 1889. Charles B. Schofield was promoted to Captain on June 19, 1890. He was promoted to Lieutenant Colonel, adjutant to Lt. Gen. Schofield on Feb 8, 1891 and served that duty until to September 29, 1895. He died on February 2, 1901 of heart disease. The information regarding Charles B. Schofield can be found in Heitman’s work and pages 146 – 148 of *The Thirty-Second Annual Reunion of the Association Graduates of the United States Military Academy, at West Point, June 8<sup>th</sup> 1901.*



Captain Edward Ball, Company H, 2<sup>nd</sup> Cavalry, Fort Ellis, Montana Territory circa 1871  
**Courtesy of Montana Historical Society, Helena, Montana**

**Captain Edward Ball:** Edward Ball was the commanding officer of Company “H” 2nd. Cavalry during Baker’s Battle on the Yellowstone. He entered military service under the name of David Rey; and served as a private of “H” and “E” Companies of the 4th Infantry from November 25, 1844 until November 25, 1849. He rose through the ranks of private, corporal, and sergeant of “H” Company, 1st Dragoons from May 7, 1850 to August 13, 1861. Ball was promoted to 2nd Lieutenant of the 12th Infantry on May 14, 1861. He transferred to the 2nd Cavalry on September 20, 1861. Ball was promoted to 1st Lieutenant on April 5, 1862. He performed regimental quartermaster duties from September 24, 1862 to July 25, 1865. Ball was promoted to Captain on July 25, 1865. He was promoted to Major, 7th Cavalry on April 1, 1880. He retired on April 14, 1884 and passed away that same year.



2<sup>nd</sup> Lt. Lovell Hall Jerome, Company H, 2<sup>nd</sup> Cavalry, circa 1870's  
Courtesy of Montana Historical Society, Helena, Montana

**2<sup>nd</sup> Lt. Lovell Hall Jerome:** Lovell Hall Jerome was assigned to Company "H", 2nd Cavalry during Baker's Battle on the Yellowstone. He enrolled as a cadet at the Military Academy on Sept 1, 1866, and graduated June 15, 1870, 57th in his class. He was assigned as a 2nd Lieutenant to the 2nd Cavalry on June 15, 1870. He served at Ft. Ellis, Montana Territory from October 13, 1870, to September 16, 1871. Jerome was assigned to escort duty from September 16 to November 29, 1871. He served at Ft. Ellis, Montana Territory until July 28, 1872. Jerome participated in the escort to the Northern Pacific Railroad survey party from July 28, 1872 until September 28, 1872. He served at Ft. Ellis, Montana until August 10 1875. Jerome was on leave of absence from November 24, 1872 to May 4, 1873. He was assigned to scouting duty from August 10 until October 2, 1875. Jerome remained at Ft. Ellis, Montana Territory until March 24, 1877. He participated on the Nez Perce Expedition from March 24 until November 5, 1877. Jerome remained at Fort Ellis, Montana Territory from November 5 until November 9, 1877. He was on leave of absence from November 9, 1877 until May 2, 1878. Jerome was assigned to duty at Ft. Carroll, Montana Territory from October 9 to November 14, 1878, He was en route to St. Paul, Min., and at Ft. Snelling, Min., Dec. 17, 1878. Lovell H. Jerome was in arrest to April 12, 1879. He resigned, April 12, 1879.

Lovell Hall Jerome died January 17, 1935, at New York City at the age of 85. Jerome, after the usual furloughs for graduates, was among the few young officers sent into the far interior Northwest, reaching his first station, Fort Ellis, near what is now Bozeman, Montana, by rail and stage in October 1870. He participated in Baker's Battle on the Yellowstone where the Indian force, estimated at between 400 to 1000 Sioux, Cheyennes and Arapahos, after a short combat were driven to the surrounding hills and did not return. The 1876 Campaign was mentioned. He remembered carrying out Reno's wounded and

that a considerable number of Custer's men were raw recruits; and that if Custer had waited for Gibbon (whose men were veterans, acclimated and familiar with the ground from their long stay in that region and various scouting trips), without the longer wait that would have been necessary for Crook to come up, there would at least have been a more even fight on the Little Big Horn! On May 7, Miles attacked Lame Deer's camp of renegade Minneconjous; the General's report particularly mentioned Lieutenant E.W. Casey, 22 Infantry, and Lieutenant Jerome, 2nd Cavalry, for their gallant charge directly upon and through the Indian Village on Little Muddy Creek, a tributary of the Rosebud, Montana in the early morning, with an important effect upon the results of the day. On Sept. 30, General Miles and Chief Joseph began a sort of parley about surrendering the Indians, Joseph going for the purpose of an interview to Miles' camp, while Jerome entered and remained for about 24 hours as a hostage in the Nez Perce camp - the only case of its kind on record. He resigned 12 April 1879. He enrolled as a private and rose through the enlisted rank to a corporal of H Company 8th Cavalry from March 1880 to 31 June 1882. *The Association of the Graduates of the United States Military Academy Annual Report June 11, 1935*, pp 66 - 71.



Captain George L. Tyler, Company F, 2<sup>nd</sup> Cavalry, circa 1870  
Courtesy of Montana State University, Special Collections,  
Lester Wilson Family Papers Collection 1407

**Captain George L. Tyler:** George Tyler commanded Company "F" 2nd Cavalry during Baker's Battle on the Yellowstone. He was promoted to 2nd Lieutenant of the 7th

Maryland Infantry on September 20, 1862. Tyler was promoted to 1st Lieutenant on January 22, 1863. He was brevetted Captain of Volunteers on March 13, 1865 for gallantry and meritorious service in the battle of the Wilderness Va. Tyler resigned on November 3, 1864. He was promoted to Captain, 36th Infantry on July 28, 1866. Tyler was unassigned on May 19, 1869; He was assigned to the 2nd Cavalry on December 15, 1870. George L. Tyler died on October 20, 1881.



1<sup>st</sup> Lt. Frank C. Grugan, Company F, 2<sup>nd</sup> Cavalry, Fort Ellis, circa 1871  
**Courtesy of Montana Historical Society, Helena, Montana**

**1<sup>st</sup> Lt. Frank Carter Grugan:** Frank C. Grugan was assigned to Company “F” 2nd Cavalry during Baker’s Battle on the Yellowstone. He enlisted as a Private in an Independent Company of Pennsylvania Artillery on June 5, 1861. He was promoted to 2nd Lieutenant, 114 Pennsylvania Infantry on August 15, 1862. Grugan was promoted to 1st Lieutenant on September 1, 1863. He was transferred to the 3rd Pennsylvania Cavalry on December 19, 1864. Grugan transferred to the 5<sup>th</sup> Cavalry on May 8, 1865. He was honorably mustered out on August 7, 1865. Grugan was a private, general service from August 18, 1865 until May 15, 1866. He was promoted to 2nd Lieutenant, 2nd Cavalry on April 25, 1866. Grugan was promoted to 1st lieutenant on November 1, 1867. He was the Regimental Quartermaster from November 1, 1867 until July 15, 1870. Grugan was transferred to the 2<sup>nd</sup> Artillery on April 11, 1879. He was promoted to Captain on March 18, 1885. Grugan was promoted to Major, 6th Artillery on March 8, 1898. Frank C. Grugan retired on March 18, 1899.

**No image of Captain Seneca Hughes Norton has been found**

**Captain Seneca Hughes Norton:** Seneca Norton commanded Company “G” 2nd Cavalry during Baker’s Battle on the Yellowstone. He was enrolled as a cadet at the West Virginia Military Academy on September 1, 1861. He ranked 31st in his class. Norton was promoted to 2nd lieutenant and assigned to the 2nd Cavalry on June 23, 1865. He was promoted to 1st lieutenant on March 6, 1866. Norton was the Regimental Adjutant from July 1, 1866 to May 1, 1867 and from July 10 to July 31, 1869. He was promoted to Captain on October 26, 1869. He resigned on December 15, 1873.



**1<sup>st</sup> Lt. Gustavus Cheney Doane, 2<sup>nd</sup> Cavalry**  
**Courtesy National Park Service, Yellowstone National Park**

**1<sup>st</sup> Lt. Gustavus Cheney Doane:** Gustavus Doane was assigned to Company “G” 2nd Cavalry during Baker’s Battle on the Yellowstone. He enrolled as a private and made the rank of sergeant “I” and “A” Companies, 2nd Massachusetts Cavalry from October 30, 1862 to March 22, 1864. Doane was promoted to 1st Lieutenant, Mississippi Marine Brigade on March 23, 1864. He was mustered out January 23, 1865. Doane was promoted to 2nd Lieutenant, 2nd Cavalry on July 5, 1868. He was promoted to 1st Lieutenant on December 4, 1871. Doane was promoted to Captain on September 22, 1884. Gustavus Cheney Doane died on May 5, 1892.



2<sup>nd</sup> Lt. Edward John McClernand, 2<sup>nd</sup> Cavalry  
**Courtesy of the Library of Congress**

**2<sup>nd</sup> Lt. Edward John McClernand:** Edward John McClernand was assigned to Company “G”, 2nd Cavalry during Baker’s Battle on the Yellowstone. He was born on December 29, 1848 in Jacksonville, Morgan County, Illinois. He entered the U.S. Military Academy on September 1, 1866 and graduated 36th in a class of 57 during the summer of 1870. He was promoted to 2nd Lieutenant, 2nd Cavalry on June 15, 1870. McClernand was involved in the action against Sioux, Cheyenne and Arapahoe Indians at Prior Creek, Montana Territory, Aug. 14, 1872. McClernand was with the expedition that rescued the remnants of Custer’s command, at the Little Big Horn River, Montana, June 26, 1876. He was promoted to 1st Lieutenant on May 9, 1879. McClernand was promoted to Captain on March 24, 1890. He was promoted to Lieutenant Colonel, Adjutant General Volunteers on May 9, 1898. He was promoted to Colonel, 44th U.S. Volunteer Infantry on August 17, 1899. McClernand was honorably discharged from the Volunteers on June 30, 1901. He was assigned to the Adjutant General’s Department on February 28, 1901. McClernand’s brevets and awards are as follow: He was brevetted 1<sup>st</sup> Lieutenant on February 27, 1890 for gallantry in the pursuit of Indians and in action against them in the Bear Paw Mountains, Montana Sept 30, 1877. He was awarded the medal of honor on November 27, 1894 for most distinguished gallantry in action against hostile Nez Perce Indians at Bear Paw Mountain, Montana and September 30, 1877 in command of troops attacking a band of hostiles and conducting the combat with excellent skill and boldness while 2nd Lieutenant, 2nd Cavalry. McClernand was one of only nine from his class to make the grade of Brigadier General. He received the Medal of Honor “for distinguished gallantry of action against the Nez Perce Indians.” In Cuba, serving as Adjutant General to General William R. Shafter, McClernand was recommended for another brevet, “for gallantry in action against the Spanish forces at Santiago, Cuba, July 1, 1898. “He later received a Silver Star citation. McClernand served as Colonel of the 44th U.S. Infantry in the Philippine Insurrection and was a military advisor to the



Japanese Army during its war with Russia. He commanded the 44th U.S. Volunteer Infantry at Fort Leavenworth, Kansas. He was en route to Philippine Islands, and at Cebu, until April 1900. He commanded the 2nd District, Department of Visayas from April 1900 to May 31, 1901, consisting of the islands of Cebu and Bobol and all troops therein. He was honorably discharged from Volunteer Service on June 30, 1901. He was promoted to Major, 12th Cavalry on February 2, 1901. He began his term as Assistant Adjutant General on February 2, 1901. He was assigned the duty of Adjutant General, Department Missouri from September 1901 until October 1903. He served on the Member General Staff, Department of Missouri from October 1903 until January 1904. McClernand served as Chief of Staff, Northern Division from January 1904 to March 18, 1905. He served as Military Attaché with Imperial Japanese Armies in Manchuria and in Japan from May 8, 1905 to December 23, 1905. He was promoted to Lieutenant Colonel, 1st Cavalry on March 18, 1905. He began his term as commanding officer of the 1<sup>st</sup> Cavalry at Fort Clark, Texas on August 24, 1906. He was promoted to Colonel, 9th Cavalry on November 20, 1908. McClernand was transferred to the 1st Cavalry, Nov. 24, 1908. He was en route to Philippines and to Camp Stotsenburg, Pampanga, P.I., to Dec. 14, 1909. He was a member of the Retiring Board and en route to the U.S. until April 17, 1910. McClernand was at Rock Island Arsenal, Ill. President of Cavalry Equipment Board from May 7, 1910, to May 6, 1912. He was at the Presidio of San Francisco, Cal., commanding the 1st Cavalry from May 10 to July 3, 1912. He participated in the Connecticut Maneuvers on August 1912. McClernand was promoted to Brigadier-General., U.S.A. on August 27, 1912. He served as the President of Board of Officers to visit Europe and report upon organization, role, training and leading of cavalry from September 7 to December 29, 1912. He was recalled to active duty as President of Cavalry Board from December 30, 1912 to April 8, 1914, when he was relieved from active duty. He resided at Easton, Pennsylvania until October 27, 1917 when he was again recalled to active duty. He was en route to San Francisco, Cal., until November 11, 1917. He began his term as commander of the Presidio of San Francisco, on Nov. 12, 1917. Gen. McClernand was a son of the late Major Gen. J. A. McClernand, U.S.V. Edward John McClernand died on February 9, 1926 in Easton, North Hampton County, Pennsylvania.

The information regarding Edward John McClernand can be found in Heitman's work and the *Family Tree Maker On-Line: User Home Pages. (Descendants of Pete Cummins)*.

## **B. Seventh Infantry Officers, Company C, E, G, and I**

### **No image of 1<sup>st</sup> Lt. William Quinton has been found**

**1<sup>st</sup> Lt. William Quinton:** William Quinton was assigned to Company “C”, 7th Infantry during Baker’s Battle on the Yellowstone. Quinton was promoted to 1st Sergeant “C” Company, 19th Illinois Infantry on June 17, 1861. He was promoted to 2nd Lieutenant on November 2, 1861. He was promoted to 1st Lieutenant on March 1, 1863. Quinton was assigned to the Signal Corps on March 3, 1863. He was honorably mustered out on September 10, 1864. He mustered out on May 1, 1866. He was promoted to 1<sup>st</sup> Lieutenant, 1st Infantry on June 12, 1867. He was unassigned on May 3, 1869. Quinton was assigned to the 7th Infantry on May 3<sup>rd</sup> and was promoted to Captain on April 18, 1884. He was promoted to Major, 14th Infantry on September 16, 1898. Quinton was promoted to Lieutenant Colonel, 27th Infantry on February 2, 1901. Quinton was transferred to the 14th Infantry on April 22, 1901. He was promoted to Colonel, 1st Infantry on May 28, 1902. Quinton was promoted to Brigadier General on October 6, 1902. William Quinton retired on October 9, 1902.

### **No image of 1<sup>st</sup> Lt. William Isaac Reed has been found**

**1<sup>st</sup> Lt. William Issaac Reed:** William I. Reed commanded Company “E”, 7th Infantry during Baker’s Battle on the Yellowstone. He was a 1st Lieutenant and regimental Quartermaster of the 6th California Infantry March 14, 1863. Reed was honorably mustered out on October 31, 1865. He was promoted to 2nd Lieutenant 5th Infantry on February 23, 1866. He was promoted to 1st Lieutenant on July 28, 1866. Reed was unassigned from May 19, 1869 until assigned to the 7th Infantry on Dec 31, 1870. He was promoted to Captain February 23, 1883. William Reed retired April 23, 1889.

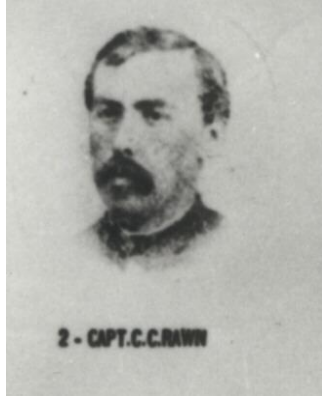


Captain George Leslie Browning, 7<sup>th</sup> Infantry  
Courtesy of National Park Service, Nez Perce Historical Park

**Captain George Leslie Browning:** George L. Browning commanded Company “G” 7th Infantry during Baker’s Battle on the Yellowstone. He enlisted as a private in “F” Company, 7th New York State Militia and remained there from April 26 to June 3, 1861. Browning was enrolled as a private and rose to the rank of sergeant, “F” Company 1st Battalion 14th Infantry on September 29, 1862. Browning was promoted to 2nd Lieutenant, 14th Infantry on February 27, 1864. He was promoted to 1st Lieutenant on August 15, 1864. Browning was transferred to the 23rd Infantry on Sept 21, 1866. He was promoted to Captain on February 7, 1867. Browning was unassigned from July 23, 1869 until assigned to the 7th Infantry on Jan. 1, 1871. George L. Browning died on May 1, 1882.

**No image of 2<sup>nd</sup> Lt. Henry A. Irgens has been found**

**2<sup>nd</sup> Lt. Henry A. Irgens:** Henry Irgens was assigned to Company “G”, 7th Infantry during the Battle on the Yellowstone. He was a Sergeant and 1st Sergeant of Company “A” 17 New York Infantry from August 7, 1863 to August 2, 1865. Irgens was a private, corporal, and sergeant of Company “B” Engineer Battalion from August 30, 1865 to November 26, 1867. He was promoted to 2nd Lieutenant 27th Infantry on November 20, 1867. Irgens was unassigned on June 14, 1869. He was assigned to the 7<sup>th</sup> Infantry on April 21, 1870. Henry A. Irgens resigned on December 31, 1875.



Captain Charles Cotesworth Rawn, 7<sup>th</sup> Infantry  
**Courtesy of National Park Service, Nez Perce Historical Park**

**Captain Charles Cotesworth Rawn:** Charles C. Rawn commanded Company “I”, 7th Infantry during Baker’s Battle on the Yellowstone. He was the highest-ranking Infantry officer during the fight. Rawn enrolled as a private in “F” Company, 25th Pennsylvania Infantry on May 2, 1861 until July 26, 1861. He was promoted to 2nd Lieutenant, 7th Infantry on August 5, 1861. Rawn was promoted to 1st Lieutenant on July 9, 1862. He was promoted to Captain on November 4, 1863. Rawn was promoted to Major, 24th Infantry on April 18, 1884. Charles C. Rawn died on October 5, 1887.



1<sup>st</sup> Lt. William Logan, 7<sup>th</sup> Infantry  
**Courtesy of Montana Historical Society, Helena, Montana**

**1<sup>st</sup> Lt. William Logan:** William Logan commanded Company “I” 7th Infantry during Baker’s Battle on the Yellowstone. He was the Officer of the Guard and had a premonition of an attack prior to the fight on the Yellowstone. Logan enlisted as a private in December, 1850. He rose through the ranks to Corporal and to Sergeant, Company “I”, 7th Infantry through January 12, 1863. He was assigned as hospital steward until June 4, 1864. Logan was promoted to 2nd Lieutenant and 1st Lieutenant,

7th Infantry on May 8, 1864. He was assigned the duty of Regimental Quartermaster from September 23, 1864 until May 19, 1869. Logan was promoted to Captain on October 24, 1874. William Logan was killed on August 9, 1877 in action with Nez Perce Indians at Big Hole, Montana. Fort Logan, M.T. was named in his honor.

Captain William Logan's military career was one of distinction and described by the thorough biography compiled by Helen Fitzgerald Sanders, in her work, *A History of Montana*, Vol. II completed in 1913. The paragraph below is adapted from her work.

William Logan not only served in the Civil War but also the Mexican War. He served under General Taylor, on the Rio Grande, and later under General Winfield Scott until the fall of Mexico. He was assigned frontier duty in New Mexico and Texas prior to the Civil War. In 1861, his regiment surrendered to General Kirby Smith. He was later paroled and re-entered service in the Spring of 1862 with the Army of the Potomac. Logan was severely wounded at the battle of Fredricksberg. Prior to that, he participated in the battles of Chancellorsville and Snecker's Gap. Following the Civil War he served at Fort Steele, Wyoming, Fort Buford, North Dakota, and in 1872 transferred to Fort Shaw. He participated in Baker's fight with the Sioux and received honorable mention for effective service in that engagement. He remained at Fort Shaw through 1876 and participated in the Sioux campaign. He later served in the Nez Perce Campaign and was killed in the early stages of the battle of the Big Hole, August 9, 1877. His remains now repose in the national cemetery on the Custer battlefield, having been moved there in 1882.



Lieutenant Joshua West Jacobs, 7<sup>th</sup> Infantry  
Courtesy of Ed Italo Collection at U.S. Army Military History Institute,  
Carlisle, Pennsylvania

**Joshua West Jacobs:** Joshua W. Jacobs was the Regimental Quartermaster during the expedition down the Yellowstone. He enrolled as a private, Company "K" on November 10, 1861. Jacobs was promoted to Sergeant Major, 4th Kentucky Infantry on September 25, 1862. He was promoted to 1st Lieutenant, 4<sup>th</sup> Kentucky Infantry on September 25, 1862. Jacobs was promoted to Captain on September 1, 1863. He was honorably mustered out on May 15, 1865. Jacobs was assigned as Major, 4th Kentucky Infantry on July 1, 1865. He was honorably mustered out on August 17, 1865. Jacobs enlisted as a 2nd Lieutenant, 18th Infantry on June 28, 1866. He transferred to the 36th Infantry on September 21, 1866. He was promoted to 1st Lieutenant on March 1, 1867. He transferred to the 7th Infantry 19 May 1869. He was Regimental Quartermaster from June 1869 to March of 1882. Jacobs was promoted to Captain, Assistant Quartermaster on March 8, 1882. He was promoted to Major, Assistant Quartermaster on December 31, 1894. Jacobs was promoted to Lieutenant Colonel, Chief Quartermaster, Volunteers on August 11, 1898. He was honorably discharged from volunteers on May 12, 1899. Joshua W. Jacobs was promoted Lieutenant Colonel Deputy Quartermaster General on November 1, 1900.

**C: Other military or civilian participants in the Battle on the Yellowstone, August 14, 1872:**



Major John Whitney Barlow, shown above with sword in left hand. From: Francis T. Miller, *The Photographic History of the Civil War* (New York, 1911).

**Courtesy of Brian Pohanka and James Brust.**

**Barlow, John Whitney:** John Whitney Barlow held the rank of Major, Engineer Department when attached to Major Baker's expedition. He was enrolled as a cadet at the U.S. Military Academy on July 1, 1856. He graduated 14<sup>th</sup> in his class at the Academy. Barlow was promoted to 2<sup>nd</sup> Lieutenant, 2<sup>nd</sup> Artillery on May 6, 1861. He was promoted to 1<sup>st</sup> Lieutenant on May 15, 1861. Barlow was transferred to Topographical Engineers on July 24, 1862. He transferred to the Engineer Department on March 3, 1863. Barlow was promoted to Captain on July 3, 1863. He was promoted to Major on April 23, 1863. Barlow was promoted to Lieutenant Colonel on March 19, 1884, and Colonel on May 10, 1893. He was promoted to Brigadier General Chief of Engineers on April 30, 1901. He retired on May 2, 1901. Barlow was brevetted Captain on May 29, May 1862 for gallantry and meritorious service in the battle of Hanover. He was brevetted Major on July 22, 1864 for gallantry and meritorious service in the Atlanta Campaign. He was brevetted Lt. Colonel on March 13, 1865 for gallantry and meritorious service in the battles before Nashville Tennessee.



Mitch Bouyer

**Courtesy: Little Bighorn Battlefield National Monument/NPS**

Mitch Bouyer, a half-Sioux, living with the Crow Indians was hired by Lt. Joshua W. Jacobs, the 7<sup>th</sup> Infantry regimental quartermaster for one hundred dollars a month from August 1 to September 30, 1872. (See: *Historical Perspectives*) Bouyer, an experienced guide was familiar with the region that Baker would travel. He would go on to guide for Colonel Gibbon's Montana Column (2<sup>nd</sup> Cavalry and 7<sup>th</sup> Infantry) during the 1876 Campaign and would be attached to General Custer's 7<sup>th</sup> Cavalry during the Sioux Campaign of 1876. Bouyer would go to his death with General George Armstrong Custer on the Little Bighorn Battlefield.

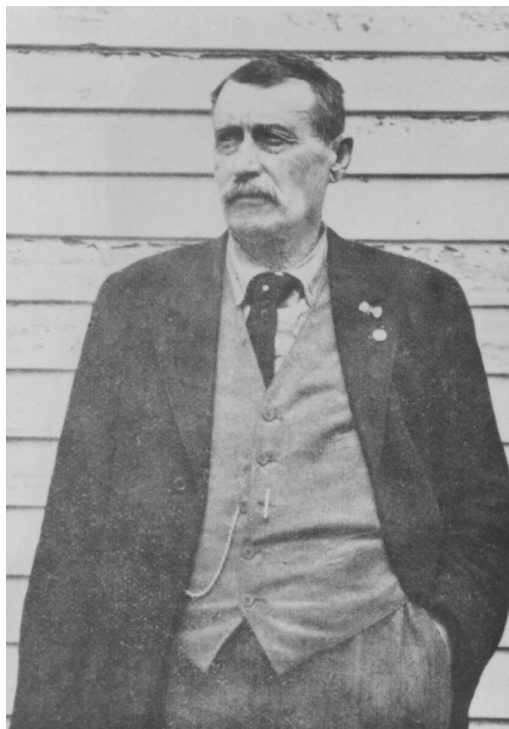




Thomas H. LeForge  
**Courtesy of the Peter Yegen Museum, Billings, Montana**

Thomas H. LeForge, also known to the Crow as 'Eet-see-dahkh-in-dush' or Horse Rider was no stranger to military campaigns. He was involved in the Montana militia during the summer of 1867 and a good friend of Mitch Bouyer. LeForge would accompany him on numerous ventures for the military stationed at Fort Ellis. He was with Bouyer and Herendeen at Major Baker's fight with the Sioux on August 14, 1872. LeForge wrote briefly of this battle in his memoirs. He also would accompany Bouyer in the Sioux Campaign of 1876. He survived this military campaign and continued to serve the U.S. military as an interpreter and courier for several years.

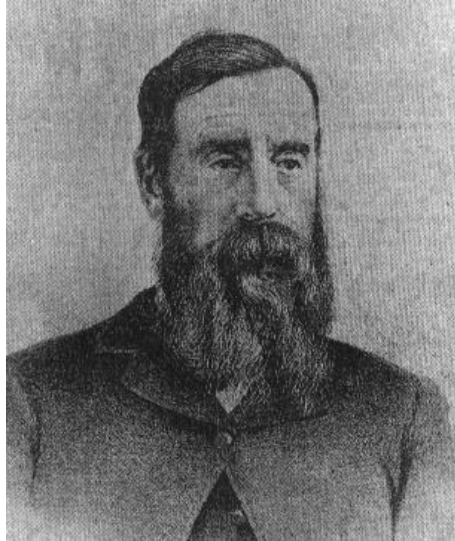
The above information regarding Thomas H. LeForge's life can be found in *Memoirs of a White Crow Indian*, written by Thomas B. Marquis.



George Herendeen

**Courtesy of Montana Historical Society, Helena, Montana**

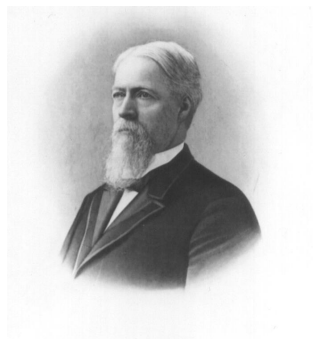
George Herendeen, a frontiersman accompanied Mitch Bouyer on Major Baker's Expedition during the summer of 1872. He participated in the fight with the Sioux on the Yellowstone on August 14, 1872. Herendeen guided for the Bozeman Wagon Expedition of 1874, which also ventured into Sioux hunting territory. He also participated in the Sioux Campaign of 1876. During this adventure he guided for Gibbon's Montana Column and was attached to Custer's column. He participated in the Reno fight. When Major Reno retreated across the Little Bighorn, Herendeen and others were left behind. Herendeen and a group of soldiers survived by hiding in the heavy bush along the river.



Matt Carroll

**Courtesy of Montana Historical Society, Helena, Montana**

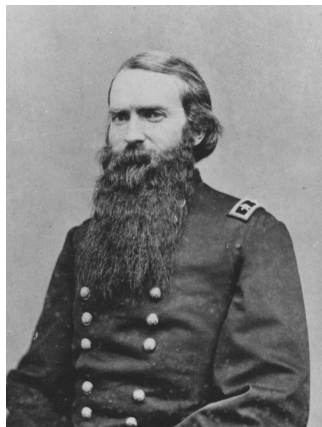
Matt Carroll, was employed as a leading member of the wagon train that carried supplies for Major Baker's Expedition of 1872. He would go on to become a proprietor of the E. C. Maclay and Co. Freighting Firm. At least one of his letters exists that tells of the Battle with the Sioux on the Yellowstone. Matt Carroll also participated in the Sioux Campaign of 1876. During this campaign he was wagon master of Gibbon's supply wagons. (see *Memoirs of a White Crow Indian*, written by Stanley Vestal)



*Paul M. Cornick*

Paul McCormick  
Courtesy of the Peter Yegen Museum, Billings, Montana

Paul McCormick was the wagon master for Major Baker's Expedition of 1872. McCormick was one of the most exciting and prominent men of his era in Montana History. He was active in Major Baker's campaigns of 1869 and 1872 and also a key investor of the Fort Pease Expedition. McCormick was also active in the Sioux Campaign of 1876 as a key member of Colonel Gibbon's supply wagons. (*See Memoirs of a White Crow Indian*)



Colonel David S. Stanley  
Courtesy of David S. Stanley Collection at U.S. Army Military  
History Institute, Carlisle, Pennsylvania

Colonel David S. Stanley was the expedition commander of the Northern Pacific Railway survey from Fort Rice, Dakota Territory to the mouth of the Powder River. His expedition successfully reached its destination despite harassment from the non-reservation Sioux. He would be the leader of the Yellowstone Expedition of 1873, which would successfully complete the survey for the Northern Pacific Railway.

**D: Sioux and Northern Cheyenne Participants in Baker's Battle on the Yellowstone, August 14, 1872**



Sitting Bull

**Courtesy of Montana Historical Society, Helena, Montana**

Sitting Bull, a Hunkpapa leader of the non-reservation Sioux was credited by Joseph Whitebull as effectively ending the battle on the Yellowstone River, August 14, 1872. Sitting Bull's smoking party on the field of battle may have been the most daring deed of his life. Sitting Bull would continue his struggle with the U.S. military until 1881 when he surrendered to the army. He was killed on December 15, 1890 by tribal police sent to arrest him for fear that he may cause another Indian insurrection. (See *Warpath*, written by Stanley Vestal for an account of Sitting Bull's smoking party)



Joseph Whitebull

**Courtesy of the Little Bighorn Battlefield National Monument/NPS**

Joseph Whitebull, a Minneconjou warrior participated in the dare rides during Baker's Battle on the Yellowstone, August 14, 1872. He would participate in the resistance to the U.S. military during the 1870's. However, he would surrender to General Miles and participate in the Lamé Deer fight as a U.S. scout. His account of Baker's Battle is the most comprehensive Native American account known and can be read in Stanley Vestal's *Warpath*.



Spotted Eagle

**Courtesy of Montana Historical Society, Helena, Montana**

Spotted Eagle, a Sans Arc Sioux sent a message to the Interpreter at Cheyenne Agency, Dakota Territory, and the message read to the effect that he would make it known to the whites that he had stood up in front of the soldiers to fight and he would now fight the whites wherever and whenever he met them. He was reported to have been slightly wounded, and had his horse killed in this engagement. Spotted Eagles message was written on September 6, 1872 and delivered to the Assistant Adjutant General, Department of Dakota, St. Paul Minn. *Records of the U.S. Army Continental Commands, Military Division of the Missouri, Letters Received # 3597 (1872) No. 393.*



Spotted Elk

**Courtesy of Montana Historical Society, Helena, Montana**

Spotted Elk, a non-reservation Sioux is thought to have participated in the fight on the Yellowstone, August 14, 1872. However, there are no accounts that directly place him at this fight. Undoubtedly, he was involved in the fight at Arrow Creek or against Colonel Stanley's soldiers on the Powder River or O'Fallon Creek.

## **Appendix D: Tracy's Landing – Historical Perspective**

### **Tracy's Landing (Baker's Battleground Tie-up)**

In her book *The Man of Dover's Island* the author Mildred Dover Decosse related the experiences of her father, John Henry Dover, in homesteading on a Yellowstone River island about seven miles east of Billings, Montana. The year was 1882. Across the north channel from his island property lived another homesteader, William H. Tracy.

The men often joined in conversation and upon at least one occasion Tracy told Dover of the battle that occurred on Tracy's land in 1872 between U.S. Army forces under the command of Major Eugene M. Baker and a large number of Sioux and Cheyenne Indians.

He further discussed the existence of a steamboat landing with outbuildings, also along the north channel of the river separating their properties. Here he remarked, had been stored thousands of buffalo hides during the winter of 1879 – 80 awaiting the arrival of steamboats in May or June when the water would be deep enough to accommodate them.

He referred to the facility as Tracy's Dock and said it was also known as Baker's Battleground Tie-up. He "put up a building and made other improvements".

Author Decosse related a conversation between John Dover and a Coulson resident named Henry Harlow describing how the large island at Tracy's Dock "splits the river making each channel too small for the larger boats. However, there was a place above Huntley across from the lower tip of this big island, where boats used to tie up to the mainland. It was called Baker's Battleground Tie-up until a man by the name of Tracy homesteaded it".



I reviewed copies of the first and two succeeding official township survey plats of the island and surrounding area. The original plats, surveyed in 1878 by W.W. DeLacy, shows the island and both channels as they existed then. The North Channel is positioned as described by the author Decosse between the Tracy and Dover homesteads. It sweeps the mainland at the geographic position of a rock wall I suspect to be Tracy's Dock. The north channel is shown by DeLacy to be the more prominent of the two. A second small island located within the south channel appears to restrict flow through the south channel.

The 1887 resurvey by Geo. K. Reeder shows both channels in the same positions but the north channel has diminished considerably. The south channel has taken over having eliminated the secondary island described above. The main island is designated "Dover's Island" on the survey plat. The 1910 resurvey plat shows both channels in the same positions as on former surveys, but the north channel is even more diminished than in previous surveys. It also shows two dams having been constructed across the upper end of the north channel.

The 1975 East Billings 7 ½ minute topographic map illustrates the river occupying the former south channel for a short upstream distance then having cut a new channel far south and east of the position where the former two channels joined below Dover's Island. This map gives no indication of the former north channel, now partially filled with sediment and vegetation.

My friends and I became involved in the historical aspects as a research project and in 1987 approached the landowners for confirmation of the site location, for any on-site

information and for permission to conduct a site survey. We were gratified to find them not only cooperative but also enthusiastic and helpful in attempting to relocate and assess any remaining evidence of the battle and the steamboat landing.

The site of Baker's Battleground (Site No. 24YL1129) was relocated quite easily from the description and map depicted in the report of the battle by Major J.W. Barlow who accompanied Major Baker and a surveying party of the N.P. Railroad when the Indian interference occurred. This report was submitted to the U.S. Senate, 42<sup>nd</sup> Congress, Ex. Doc. No. 16 by Wm. W. Belknap, Sec. Of War on Dec. 14, 1872.

Most of the battleground is now under cultivation and only superficial examination was performed by us, with one exception; We searched a small swale area of the eastern edge of the site with metal detectors and recovered a .50/70 fired cartridge. One landowner, Lewis J. Schroeder, in the course of farming operations, had collected a number of other cartridges and bullets from the site. These he graciously relinquished for repository with the Montana Historical Society. The cartridge we recovered accompanied them.

John Dover descendents Dover and James Sindelar accompanied us and with difficulty relocated and assisted us in the removal of enough tangled underbrush to expose a few set stones marking what they recalled from earlier years as a rock lineament. This part of Tracy's Dock. It is located at the edge of the now-vacated north channel around the original Dover's Island. Its location is along and between lands formerly owned by John Dover and William Tracy as recorded in author DeCosse's book. The site was assigned site number 24YL1209.

James Sindelar told us that some years previously he had seen a thin charcoal line, barely discernable through the meadow grass, apparently parallel to and not far north of the rock line. He also remembered his mother (author DeCosse) had said there had been a warehouse at this site. He proposed that the charcoal line was the remains of a wooden wall or foundation which had been consumed by fire.

#### Assessment

With underbrush removed a line of sandstone blocks were exposed along the immediate bank of the former north river channel. At the edge of the rock line the land slopes abruptly six to eight feet to the present abandoned channel floor. To the north lies a flat, grassy meadow with scattered cottonwoods extending to the edge of high gravel capped terrace. A barbed wire fence almost parallels the rock line on its north side, several feet away, separating land owned by James H. Sindelar and William G. Michael. The rock line trends N 82 degrees East for a distance of 29 feet. It is located in the SW  $\frac{1}{4}$  of Sec. 5, T1N, R27E in Yellowstone Country, Montana.

In July of 1992 test operations commenced with the setting of steel datum stakes at the East and West ends of the rock line, 30 feet apart. From these a 30 ft. grid to the north was constructed parallel and perpendicular to the datum stakes with 10 ft and later 5 ft subdivisions (see Site Map). The rocks constituting the lineament were sketched in place as were some 23 which had been dislodged and slipped down the slope toward the abandoned channel. It was noted the rocks are of buff colored sandstone, slabby and blocky in shape and occur in some places as a single course and in others as a double course. Since there are almost as many downhill from the line as there comprises it, there

probably were originally at least two courses the length of it. It will hereafter be referred to as a wall. It was dry-laid, no sign of cementing agent was noted.

A sod and soil mantle north of the wall and fence obscure any details of cultural manifestation. Test excavation sampling and later probing with steel wires located a few scattered buried sandstone flagstones. These were located 0.3 ft to 0.8 ft. below the surface.

There was no particular orientation of these occurrences. They were all measured and plotted on the prepared grid. A fragment of rusted metal barrel hoop was found by probing at depth 0.6 ft. It was located 2.0 ft north and 5.0 ft. west of the NE grid corner (Feature 1).

In hopes of intersecting evidence of a foundation or wall extending northward from the end of the rock wall, an east-west cross trench pit 2.0 ft by 10 ft (Test Pit no.1) was opened 20 ft north of the rock wall to a depth of 0.7 ft. There was no evidence of a foundation or wall.

The removal in our absence of two buried iron bars from a point just outside our grid, prompted an annex to our grid and an opening of Test Pit No. 2 as illustrated in the site map. Another iron bar, a carriage bolt and an iron-clamping device were recovered from this pit, all at depths ranging from 0.4 ft to 0.75 ft. No charcoal was observed.

Test pit No. 4, located across the west end of the rock line occasioned another annex to the original grid as illustrated. No suggestion of a southward extension where lie three closely spaced rocks. These could simply have fallen away from the wall as did many

others farther along the wall to the east. The exposed sandstone blocks are noted to be fire-reddened along the south side the full length of the wall. Some are also reddened on top.

In the NW corner of Test Pit No. 4, a cluster of large square nails was found at a depth of 0.6 ft to 0.7 ft. The nails were oriented to some extent in an east-west direction, as though they had been placed there as a handful. A smaller square nail and a short piece of rusted strap iron were found in the NE corner of this test pit at the same depth as were the large nails.

With the aid of a metal detector a rusted hatchet head and four square nails were found at the north edge of the rock wall at a depth of 0.3 ft and located 7.0 from the east line and 3.0 ft. from the south line of the grid.

Test Pit No. 5 was opened across the east end of the rock wall in an attempt to locate any evidence of a northward or southward extension of the wall. Scattered small sandstone fragments were exposed, some were dipping northward along the line of the rock wall. Small clusters at the extreme end were oriented vertically. Burnt sandstone in the center of the test pit was noted to be of a light sienna color. No north or south foundation extension could be seen.

The brush, weeds and grass were cleared from the slope between the rock wall and the Old channel. Loose stones fallen from the wall were measured, photographed and sketched in place. West end (Test Pit No. 6) with a 1.5 ft wide perpendicular entry. (Test Pit No. 7). A white (alkaline?) soil, clay-like and several inches thick was situated along

the channel side of the wall adjacent to the blocks. A sample of this material was collected and retained for analysis. It was noted that the rock wall at the west end is of a single course. There are two courses near the middle.

Landowner William Michael met with my friends and me at the site on a chilly November 23, 1992. With a tractor-mounted backhoe we conducted a trenching operation north of the rock wall in a further attempt to locate any evidence of buried foundations extending from or incident to the rock wall that might indicate a warehouse, dock or other structure as told to us by Author DeCosse's son James Sindelar.

Trench No. 1 extended 55 ft roughly parallel to and north of the north line of our 30 ft by 30 ft grid. It commences 30 ft. west and 2.0 ft north of the NW corner of the grid. It drifts slightly northward as it extends easterly so that near the middle it lies 7.6 ft north of the north line of the grid. At its eastern end it lies 5.0 ft north and 5.0 ft west of the NE corner of the grid. The width of the trench is 2.4 ft and the depth varies from 0.5 ft to 1.0 ft.

Trench No. 2 extends for 50 ft. northward from a point along the north edge of Test Pit No.3, more precisely starting 14 ft. west and 8.0 ft north of the SE corner of the grid. It terminates at a point 14 ft. west and 28 ft north of the NE corner of the grid. Depth and width approximate that of Trench No. 1.

The walls and bottom of both trenches were squared with shovel and trowel to provide good observation. They disclosed only undisturbed soil except for an irregularly shaped area 3.0 ft in diameter located in the NE corner of the trench intersection (feature No. 3).

At this place at a depth of 3.0 ft to 0.4 ft we found disseminated charcoal, one square nail and some small, thin metallic (can?) fragments. No other signs of charcoal, wood or stone were observed. See Site Map for location of trenches, test pits and features.

Testing showed that a culturally sterile soil mantle 0.3 ft to 0.75 ft thick covers the surface of the site between the rock wall and the high ground to the North. No evidence was found of the charcoal lineament observed and reported to us by James Sindelar.

Black and white as well as color documentary photographs were taken of all phases of the testing and of all artifacts. Photos were taken by Stuart Conner, Ken Feyhl, Wilfred Husted and Allen Hall. A site map and test pit diagrams accompany this report.

### The Artifacts

All artifacts recovered are of historic origin and were located beneath 0.2 ft to 0.7 ft. of culturally sterile soil. Five were recovered from Test Pit No. 2. Two of these are iron bars which appear to have been separated from a long piece of bar stock by a partial cutting and then breaking action. Both bars are 28 ins long and the bar stock is 1 ½ ins wide by ¾ in thick. All four ends have a distinctive unfinished, field-cut appearance suggesting they were separated from a longer length of stock by heating and driving a chisel edge part way through the bar, then pulling and flexing the cut apart.

A third bar of identical width and thickness but 36 ins long was recovered from Test Pit No. 3. The ends of this third bar appear to have been severed the same as the other two. One bar is perforated with a hole at each end, another has a hole near one end and the

third has a hole near the middle. All holes are at the approximate center of the bar. The holes have been drilled to accommodate countersunk bolts or screws, that is, a 5/16 in hole was drilled through the bar and then it was reamed to 7/16 in hole for one third of the bar thickness. The result is a shouldered hole in which a shouldered screw or bolt would present a flush surface.

A thin, elongated metal object recovered from Test Pit No. 2 appears to be a leaf from a leaf-type wagon or buggy spring. It is slightly bowed and still retains a springy action when depressed. It is made of strap or light bar metal 1 ¼ ins wide by ¼ in thick in the middle.

The width remains constant to the ends where the thickness gradually and uniformly tapers to a knife edge. There is a ¼ in hole at the middle center with one hole on each side of it at 1 ½ ins distance.

A clamping device of iron recovered at Test Pit No. 2 is part of the breaking mechanism for an iron-tired wagon or buggy. It was a retainer for the wooden pad that, when pressed against the wagon's iron tire, served to slow or stop the vehicle. It is fashioned into a double wedge shape with not only a top-to-bottom but also a front-to-back taper. The friction of the turning wagon tire served to tighten and keep in place the wooden brake pad. The clamp is 4 ½ ins wide by 3/8 in by 3 ins long threaded bolt. The base of the bolt, where it passes through the clamp body, is square, apparently for a distance of 1.0 in. A square nut and washer are in place on the bolt. Vestiges of what appears to be hardwood remain on the mounting side of the clamp surrounding the bolt.



A lone bolt, identical to that described above was recovered 6.0 ins away from the clamp. The square shoulders are 1.0 inches in length on this bolt, the same as on the clamp. The lone bolt has a square nut threaded in place. It has a flat, round head

A polled hatchet head was recovered from along the rock wall as reported above. This hatchet measures 6  $\frac{3}{4}$  ins from the edge of the blade to the end of the poll. The blade is 3  $\frac{3}{8}$  ins wide. There is an oval hole between poll and blade through which the handle was fitted.

Remnants of the handle remain in the head. The poll extends 1  $\frac{1}{2}$  ins from the hatchet body. It is octagonal in shape, slightly flaring in diameter to 1  $\frac{1}{16}$  in ins at the striking surface. There is a slit in the blade's edge to facilitate the extraction of previously driven nails. An apparently exact type is illustrated on page 14 of *Appleton's Cyclopaedia*.

*U.S.A. 19<sup>th</sup> C.* The drawing in Appleton's is labeled "a shingling hatchet".

Four medium size "square" nails were recovered in the immediate hatchet area, two in Test Pit No. 3, one in Test Pit No. 2 and one in Feature No. 3. Though highly corroded these nails appear to have been hand made. Some are square in cross sections and some are oblong. All taper uniformly from head to the corroded-away tip. The remaining lengths vary from 1  $\frac{7}{8}$  ins for the shortest to 3  $\frac{1}{8}$  ins for the longest. Different size cross sections are indicated. Weights vary from 1/8 oz to 5/8 oz. The heads appear to have been squared to sub-rounded.

Clusters of eight "square" nails were recovered from Test Pit No. 4. These are much larger than the eight previously described.. Unlike those just described these are

remarkably uniform in size and length. Their lengths vary less than 1/8 in for a uniform 5 1/8 ins. They each weigh 1 ¼ oz. Van Dyke's of Woonsocket, South Dakota, a supplier of restorers materials, illustrated for sale in their 1992 catalog, similarly appearing and sized nails they refer to as "Cut Spike Nail", still produced by the same hand-made 1800's method in an early New England mill dating back to 1819". Their nails are sized as 40d, are 5 ins in length and run 9 / lb.

A metal horn weight, an item used to train the curve of a domestic bull's horns for show purposes was recovered at the west end of the rock wall at a depth of 2.0 ins. Author DeCosse recorded in her book that her father John Dover raised shorthorn cattle for show and profit, animals which had been brought into Montana from Oregon in 1883.

A badly corroded segment of thin strap metal was recovered from the NE corner of Test Pit No. 4 at depth 0.6 ft. The broken and corroded segment is 4 ½ ins. Long. The strap width is 1.0 in and the thickness is 1/16 in.

#### Discussion

There is little need for a rehash here of the extent and contribution of steamboat activity to the commerce and settlement of the Yellowstone River Valley. The history of navigation on the river was recorded by John G. McDonald in a 1950 masters thesis of that title at the University of Montana. Further documentation is provided in an article by William E. Lass entitled STEAMBOATS ON THE YELLOWSTONE, first published in MONTANA MAGAZINE OF WESTERN HISTORY, autumn 1985 and republished in THE GREAT SIOUX WAR 1876 – 1877 by the Montana Historical Society in 1991.

The literature is abundantly provided with data on the steamboats' part in establishing and supplying trading "forts", military posts, wagon road terminals and early settlements.

The unfortunate thing is, there is no known physical evidence of those steamboat operations anywhere along the Yellowstone River; unless it could be the rock wall at Tracy's Dock.

With the verification of that as an objective, my friends and I, with the cooperation, interest and assistance of the landowners, pursued the preceding testing and assessment operations.

We had hoped the rock wall was the riverside remains of a dock or warehouse foundation and that the remaining buried foundation stones or wooden remnants extending away from the riverside would be located. No sign of such foundation extension was found. If the rock wall is part of Tracy's Dock, it may be that we see only the north wall, that the south wall and the east and west walls have been washed away.

Of those identifiable artifacts recovered, none have a positive maritime association. The hatchet and nails indicate carpentry and the wagon parts indicate land transportation. We do not know the significance of the three iron bars with countersunk holes. They are thought to be too heavy for wagon hardware or rim through two of them was at the same depth and were only inches away from the recovered wagon brake shoe. They could have reinforced the keel or gunwales of a steamboat. We are still pursuing sources of information about them.

Yellowstone River steamboat records are being sought, as well as any references to

Tracy's Landing or Baker's Battle Tie-up. Hopefully this last segment of the Tracy's Dock test report may eventually be amended and appended.

Of interest, and a subject worthy of further research, is this man, William H. Tracy. Author DeCosse has given us an excellent word picture of her father, John H. Dover. But we know very little about William Tracy, and he set in motion that which whetted our interest in this project to begin with. If not at the rock wall, then somewhere nearby he built a dock, "put up a building and made other improvements". Apparently his dock was used at least to store buffalo hides for steamboat shipment.

On DeLacy's 1878 map is plotted a habitation designated "W.H. Tracy". It is located along what is labeled "Tongue River Road", a trail shown paralleling the Yellowstone River. A looping branch of this "Road" swings over close to the old north channel and the rock wall, as though it might have served that site.

We have found ample biographical data on a William H. Tracy and his family in Bozeman. We further have found a seeming connection between "Bozeman" Tracy and "Yellowstone" Tracy through a "Declaration, Water Rights" signed by William H. Tracy and acknowledged in 1879 in Gallatin County, pertaining to the lands then owned by "Yellowstone" William H. Tracy at Tracy's Dock. But we have found no reference to Tracy family activities in the Billings area in any biographical material.

This last is a good puzzle-project for someone to work out.

Ken Feyhl  
Billings, MT 59102  
Feb. 25, 1993


### **Tracy's Dock / Landing Update**

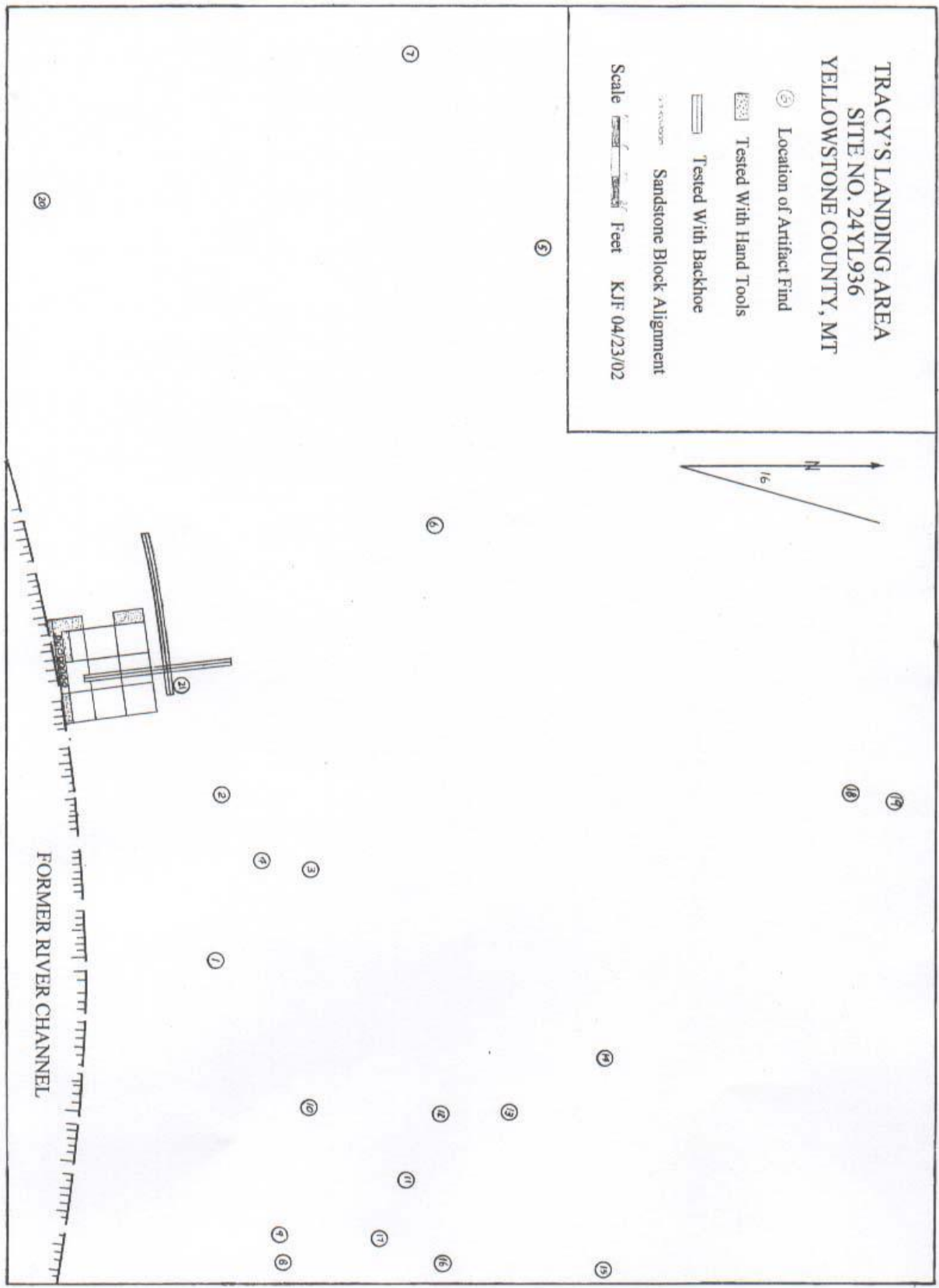
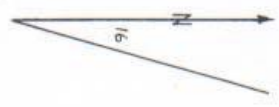
Tracy's Dock site is located along what could be called the perimeter of Baker's Battlefield as described previously. During 2001, a metal detector survey of the nearby battle area was conducted by John Hawkins and Dave Eckroth of Bozeman and Billings, Montana. In the course of this survey they discovered and unearthed a large number of metal artifacts in the Tracy's Dock area. The artifacts found near the dock reflect several activities including military, agricultural, transportation, hunting and in, in the case of the scale weight, commercial trade.

Examiners Hawkins and Eckroth used the name *Tracy's Landing* for the immediate area where the artifacts were recovered. They identified and labeled each artifact with a number and with Tracy's Landing designation, such as MTTLAA72. Out of 52 artifacts found, the find locations of 21 were determined by plane table survey using the Tracy's Dock rock line and steel pin datum for reference. An area map was prepared entitled Tracy's Landing Area showing the find locations, the dock site and the edge of the former river channel. All artifacts recovered are listed below with description and nomenclature to the extent known. Surveyed and non-surveyed finds are listed separately.

Kenneth Feyhl  
Billings, MT 59102  
April 12, 2002

TRACY'S LANDING AREA  
 SITE NO. 24YL936  
 YELLOWSTONE COUNTY, MT

- ⑤ Location of Artifact Find
  - ▨ Tested With Hand Tools
  - ▨ Tested With Backhoe
  - ▨ Sandstone Block Alignment
- Scale  Feet KJF 04/23/02



**Tracy's Landing Artifacts Located by Survey**

Location No.	Artifact No.	Description
1	MTTLAA69	.45/70 unfired bullet
2	MTTLAA51	Lamp wick Retainer
3	MTTLAA75	Horse accouterment,
buckle		
4	MTTLAA55	.45 caliber fired bullet
5	MTTLAA53	.45/60 WRA Co.
WCF Casing		
6	MTTLAA36	Model 1816 Lock
Plate		
7	Token, No Number assigned	
8	MTTLAA65	.50/70 unfired bullet,
low crimp		
9	MTTLAA82	Z-shaped hook, meat
hook		
10	MTTLAA89	.45/60 WRA Co.
Casing		
11	MTTLAA83	Shoe item
12	MTTLAA84	Metal spike
13	MTTLAA86	Unknown metal item
14	MTTLAA60	O-ring
15	MTTLAA81	Unknown metal item
16	MTTLAA80	Bit, unknown design
17	MTTLAA87	File
18	MTTLAA73	A-C utensils - heavily rusted
19	MTTLAA72	Utensil, table knife
20	MTTLAA45	Peters .30 caliber center fire casing
21		Military Issue Picket Pin and artifact survey instrument station

### Tracy's Landing Artifacts Not Located By Survey

<u>Location No.</u>	<u>Description</u>
MTTLAA16	.45/70 Pre-1877 casing
MTTLAA21	.45 caliber bullet fired in an 1873 or later Springfield
MTTLAA37	Tent pin
MTTLAA44	Wagon diamond
MTTLAA52	Weight, 1-Lb.
MTTLAA54	.45/60 WRA Co. WCF cartridge
MTTLAA56	Wagon wheel hub
MTTLAA57	Liberty V nickel dated 1893
MTTLAA61	.50/70 unfired bullet high crimp-Benet
MTTLAA62	.50/70 unfired bullet low crimp - Bar Anvil
MTTLAA63	.50/70 unfired bullet low crimp - Bar Anvil
MTTLAA64	.50/70 unfired bullet low crimp - Bar Anvil
MTTLAA66	.45/70 unfired bullet
MTTLAA67	.45/70 unfired bullet
MTTLAA68	.45/70 unfired bullet
MTTLAA70	.45/70 unfired bullet
MTTLAA71	Wagon hitch
MTTLAA74	Heavily rusted snap
MTTLAA78 A-D	Four Halter snaps and buckles
MTTLAA76	.32 caliber rimfire casing fired in a Smith and Wesson (circa 1860 to 1973)
MTTLAA77	Suspender piece - Farmers Brace
MTTLAA79	Large square-cut nail
MTTLAA85	O-ring
MTTLAA90	.50/70 shell casing, Bar Anvil design
MTTLAA91	.50 caliber fired bullet
MTTLAA92	Chain sprocket
MTTLAA93	Bolt with right angle bend
MTTLAA94	Square cut nail
MTTLAA95	Broken arc of a drive mechanism



## **Appendix E: Significance, Threat Assessment and Preservation of the Baker Battle Site**

### **A. Significance of the Baker Battle Site**

The Northern Pacific Railroad Survey of 1872 had two arms. Colonel David Stanley lead a railroad survey team and military escort from Fort Rice, near present day Bismarck North Dakota to the mouth of the Powder River and Major Eugene M. Baker led a military escort for a railroad survey team traveling east from Fort Ellis, near present day Bozeman, Montana between the Yellowstone and Musselshell Rivers to the mouth of the Powder River.

Major Baker's Expedition met resistance on the Yellowstone River, near present-day Billings. The attack on Major Baker's command by Sioux and allied warriors was the first engagement in the Great Sioux War (1876-1877) in Montana. Sitting Bull, already an established leader enhanced his leadership status by his actions during this battle. Crazy Horse, an emerging leader of the Sioux, further enhanced his credibility as a leader by his acts of bravery on the battlefield.

### **B. Threat Assessment**

The land on which Major Baker's campsite and the main battlefield are located has been used for agricultural purposes for over 100 years. Some leveling has taken place in the area where Major Baker camped, however, this portion of the site retains its original visual appearance.

The single significant change to the campsite was the filling in of the shallow draw, close to the Yellowstone River, which once crossed the site and was used to picket the horses

during the battle.

The slough, the scene of short-range fighting retains its original outline, although some dredging has taken place in this area which may have impacted some of the battle line by burying artifacts under the soil dredged out of the slough.

Both the campsite and the battle line in the slough have been subjected to complete flooding on several occasions, which may also have dislocated some artifacts.

The Indian positions in the bluffs are virtually untouched as they generally occupy steep reverse slope positions that are unsuitable for most agricultural uses. Cattle have grazed these areas and that may have caused some impact to artifact distribution.

One area of the bluffs overlooking the battlefield was developed as a trailer park and was leveled for that purpose. Any artifacts from that area are lost. The park is now vacant and that piece of land is under consideration as a location for an interpretive overlook.

The location of Captain Ball's skirmish line and Tracy's Landing are on another landowners property. Some minor gravel operations have occurred on this property in the years prior to this project.

The view shed is impacted by several dwellings and outbuildings and a farm road.

The artifacts from this site are generally in private ownership though several are with the Montana Historical Society collection.

### **C. Preservation Opportunity**

The grant provided by the American Battlefield Protection Program made possible the compilation of a significant collection of little known archival information into a single comprehensive report on this site. That material fortunately was supported by detailed study of the large collection of related artifacts.

Together, the archival material and artifacts allowed for a complete detailed reconstruction of the battle and allowed for it to be given its proper and important place in the areas history.

Nominating this battlefield to the National Register and presenting this report to the National Park Service, Montana Historical Society / SHPO and other pertinent repositories should further illuminate this period of Indian War history that is relatively unknown.

### **D. Landowner Information**

The Michael Family owns the land where Major Baker's campsite and the majority of the battle took place.

Mr. James Sindelar owns the land where Captain Ball's skirmish line and Tracy's Landing are located

Both families have been supportive of the efforts of the principal investigators from the start of this project to its end. These landowners also stringently screen persons who request access the site and good control is aided by the fact that access is limited to

approach on a privately owned road.

**E. Montana Historical Site Landmark Identification Numbers:**

According to the Smithsonian system of identification the following site identifiers have been assigned:

Baker's Battleground on the Yellowstone River is Site No. 24YL1129

Tracy's Landing, adjacent to the Battlefield is Site No. 24YL1209

## Appendix F. Baker's Battlefield Photos:



**Picture # 1:** This is a view of the trees that surround Major Baker's camp on the Yellowstone. The photo was taken from the bluffs that are known as Indian Position # 4.

**Courtesy of David Eckroth**



**Photo # 2:** This is a view of the Yellowstone River directly behind Major Baker's Camp. The men of the expedition fished and laundered near here.

**Courtesy of David Eckroth**



**Photo # 3:** This photo shows a pass that afforded the warriors who participated in the dare rides with protection upon completion of the rides. This break in the bluffs is between Indian Position # 4 (right of picture) and Indian Position # 5. This section of the battlefield afforded the warriors with complete cover.

**Courtesy of David Eckroth**



**Picture # 4:** This picture portrays the bluffs, occupied by the Sioux, Northern Cheyenne and Arapaho during the fight on the Yellowstone.

**Courtesy of Mike Turley**





**Picture # 5:** This is a view of the cavalry skirmish line. Companies 'F', 'G', 'H' and 'L', 2<sup>nd</sup> Cavalry took cover behind the slough and timbers during the fight on the Yellowstone.

**Courtesy of David Eckroth**



**Picture # 6:** This picture shows a potential Indian avenue of approach to Baker's Battlefield. There are only two potential avenues of approach north of the soldiers campsite. This view shows an approach to Indian Position# 6 which would be completely out of the soldiers' line of sight.

**Courtesy of David Eckroth**



**Picture # 7:** this photo shows the slough and timbers where companies 'C', 'E', 'G', and 'I' 7<sup>th</sup> Infantry set up a skirmish line. The Infantry positions were to the left of the Cavalry positions, if looking at their positions from the bluffs surrounding the camp.

**Courtesy of David Eckroth**



**Picture # 8:** this photo shows the rear of Indian Position # 6. This was the Second largest Indian position. The slope of this hill is typical of the Indian positions at Baker's Battlefield.

**Courtesy of David Eckroth**





**Picture # 9:** This picture shows the horse holding area used by the Sioux, Northern Cheyenne and Arapahoe during the fight on the Yellowstone. This area served the warriors who occupied Indian Position # 4.

**Courtesy of David Eckroth**



**Picture # 10:** This picture shows the Indian Headquarters in the distant bluff. Numerous signal devices, such as flags and mirrors were seen at this position, located on the prominent bluff seen in the background.

**Courtesy of David Eckroth**



**Picture # 11:** This photo shows the plains between the Indian Positions Located in the bluffs and the soldier positions in the slough and timbers. During the fight the flat terrain was covered in buffalo grass.  
**Courtesy of David Eckroth**



**Picture # 12:** This photo shows a rosebush. Barlow commented about the presence of these bushes surrounding the slough.  
**Courtesy of Mike Turley**





**Picture # 13:** Major Baker's command traveled to the vicinity of Pompey's Pillar. Here they found evidence of a vast Indian encampment and the decision was made to discontinue the survey to the Mouth of the Powder River.  
**Courtesy of David Eckroth**



**Picture # 14:** This photo shows the railroad now present on the south side of the Yellowstone River.  
**Courtesy of Mike Turley**



**Picture # 15:** This photo shows a lead disk which replaced an artifact found on the Baker Battlefield.  
**Courtesy of David Eckroth**



**Picture # 16:** Dave Eckroth relocating artifact positions in the Infantry skirmish line in order to determine GPS locations.  
**Courtesy of Harold Hagen**



**Picture # 17:** This photo shows the monument placed for Sgt. McClarren, Co. C, 7<sup>th</sup> Infantry, killed in action with the Sioux, Northern Cheyenne, and Arapaho at Baker's Battle on The Yellowstone, August 14, 1872. Note: Sgt. McClarren's name is misspelled on the monument.

**Courtesy of David Eckroth**

## **Appendix G: Tracy's Landing Photos:**





**Picture # 1:** This photo shows Tracy's Dock (24YL1209) after the duff is brushed off. This image was taken on 10/17/87 as part of the Tracy's Landing project for the Montana State Historical Preservation Office.

**Courtesy of Ken Feyhl**



**Picture # 2:** This photo shows Ken Feyhl, Harold Hagen, and John Rogers clearing the brush from the dock area. This image was taken on 10/17/87.

**Courtesy of Ken Feyhl**



**Picture # 3:** This image shows the dock after the duff was brushed off. This photo was taken on 10/17/87.  
**Courtesy of Ken Fehyl**



**Picture # 4:** This picture shows the top of the dock looking north. This Image was taken on 10/17/87.  
**Courtesy of Ken Feyhl**





**Picture # 5:** This photo shows the rock wall and slope to the Yellowstone River. This image was taken on 9/24/92.  
**Courtesy of Ken Feyhl**



**Picture # 6:** This photo shows the depth of the rock wall (Tracy's Dock). The view is from the east. This image was taken on 9/24/92.  
**Courtesy of Ken Feyhl**





**Picture # 7:** This photo shows the area northeast of Tracy's Dock. Ken Feyhl, author of the Tracy's Landing / Baker's Battle Tieup Report suggested that this may have been the location of the 'warehouse' associated with the Landing.  
**Courtesy of Ken Feyhl**



**Picture # 1:** Harold Hagen and the assembled colors of the Veterans Organizations of Billings, Montana. The ceremonies were arranged by Harold Hagen and the American Legion for the purpose of honoring a fallen comrade.

**Courtesy of Harold Hagen**



**Picture # 2:** This photo shows the Honor Guard at the ceremony. The members of the Honor Guard are Ralph Frey, Commander of Honor Guard (not shown), Harold Hagen (not shown), Heinz Steinhauer, Perry Roberts, Vince Francischetti, Kinsey Maxfield, and Bob Fears.

**Courtesy of Harold Hagen**



**Picture # 3:** This photo show the Honor Guard firing the volley near the Sgt. McClarren monument. From left to right are Ralph Frey, Heinz Steinhauer, Perry Roberts, Vince Francisschetti, Kensey Maxfield, Bob Fears, and Harold Hagen.  
**Courtesy of Harold Hagen**

## Appendix I: Captain Ball's Skirmish Line Photos



**Picture # 1:** Harold Hagen recording distance from datum point to a select cartridge position at Captain Ball's Skirmish Line.  
**Courtesy of Harold Hagen**



**Picture # 2:** Ken Fehyl plotting artifact positions using a plane table.  
**Courtesy of Harold Hagen**





**Picture # 3:** Ken Feyhl and Harold Hagen measuring and recording artifact positions at Captain Ball's Skirmish Line.  
**Courtesy of Harold Hagen**



**Picture # 4:** This photo shows a .50/70 cartridge casing found in The Captain Ball Skirmish line.  
**Courtesy of David Eckroth**



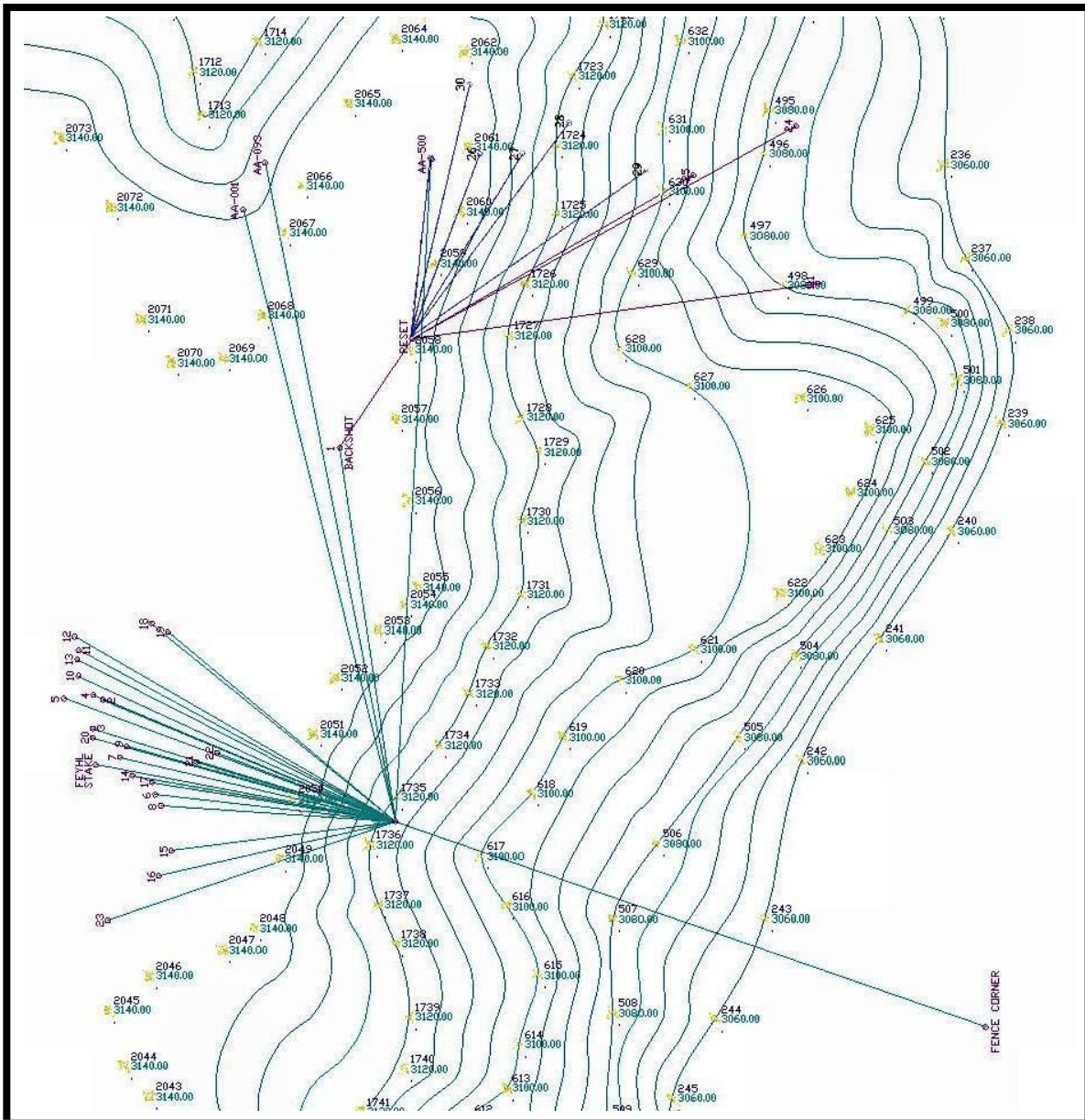
**Picture # 5:** Tim Urbaniak recording data during a total station survey at Captain Ball's skirmish line, July 2, 2002.  
**Courtesy of David Eckroth**



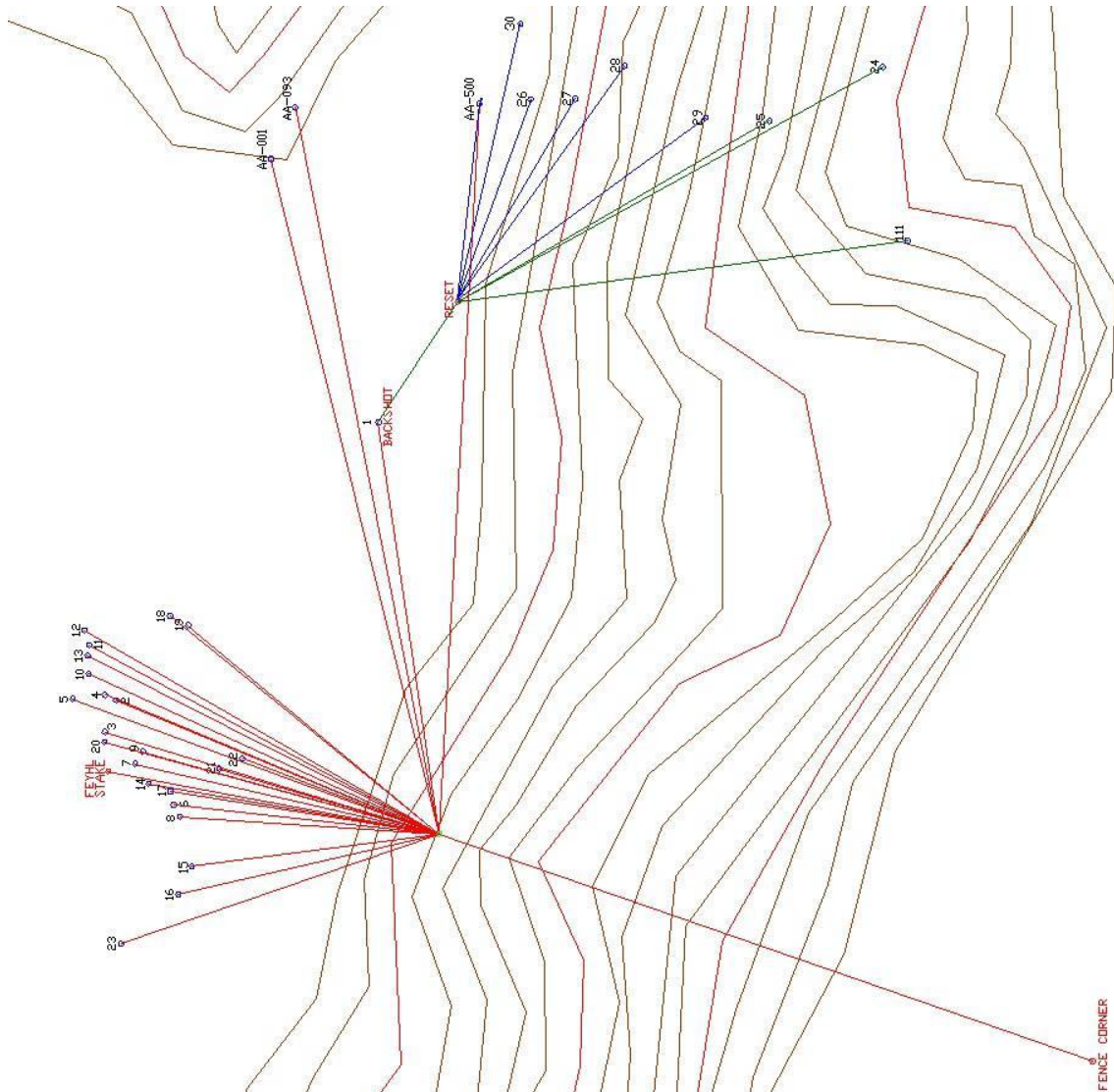
**Picture # 6:** Dave Eckroth holding an aiming stake during the total station survey at Captain Ball's skirmish line.  
**Courtesy of Tim Urbaniak**



## Appendix J: Total Station Survey and Images of Captain Ball's Skirmish Line

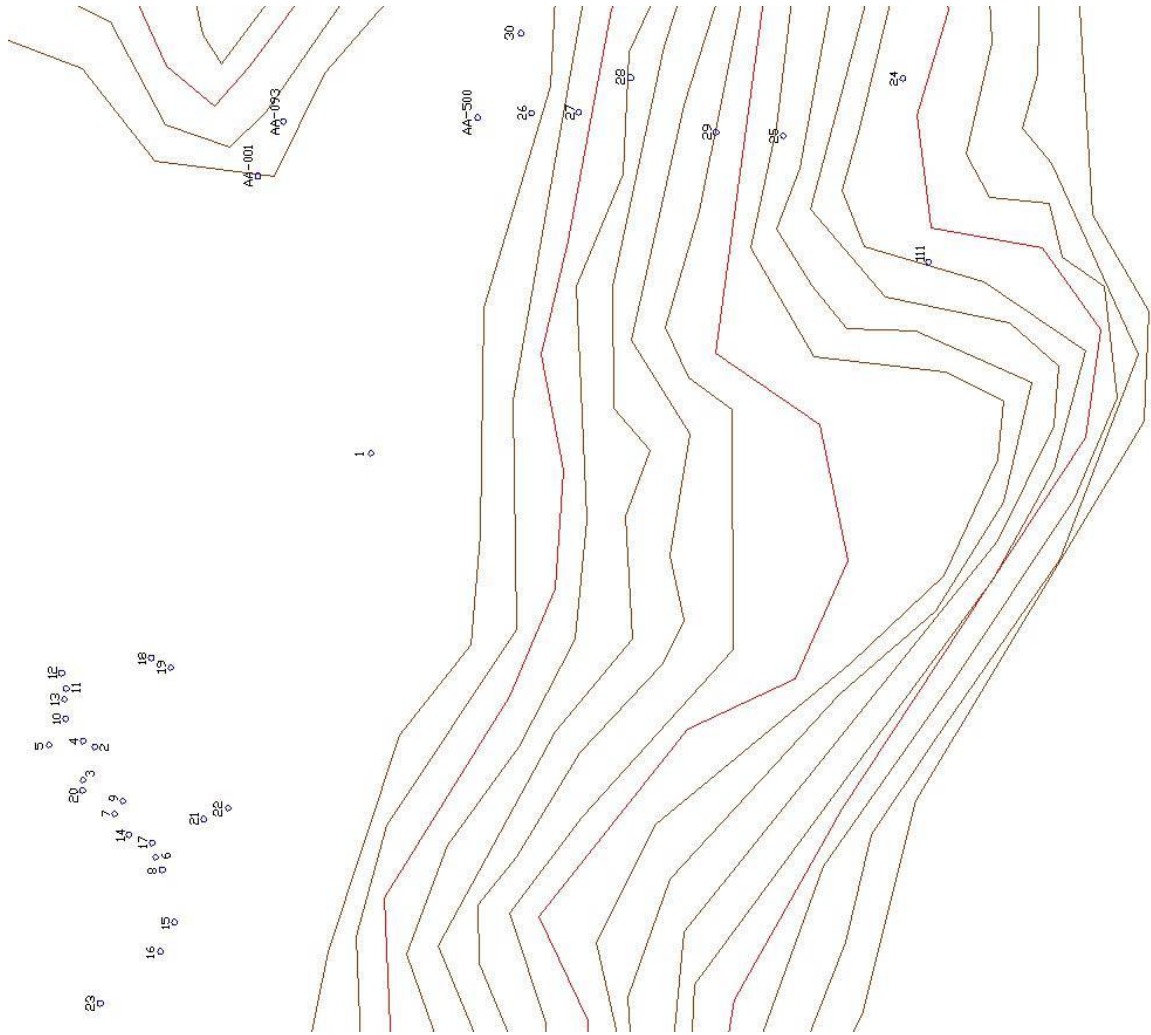


This image shows the total station survey work completed on July 2, 2002 and May 29, 2003 at Captain Ball's Skirmish line and Avenue of Approach located on the bluffs adjacent and to the left of Major Baker's camp.



This image shows the points surveyed at Captain Ball’s skirmish line and points located on the terrain to the right of the skirmish line. It also shows that two datums were used in the survey of the recovered cartridge casings. The red lines originate from the first datum. The green lines originate from the second datum, both completed on July 2, 2002. The blue lines originate from the second datum, completed on May 29, 2003.

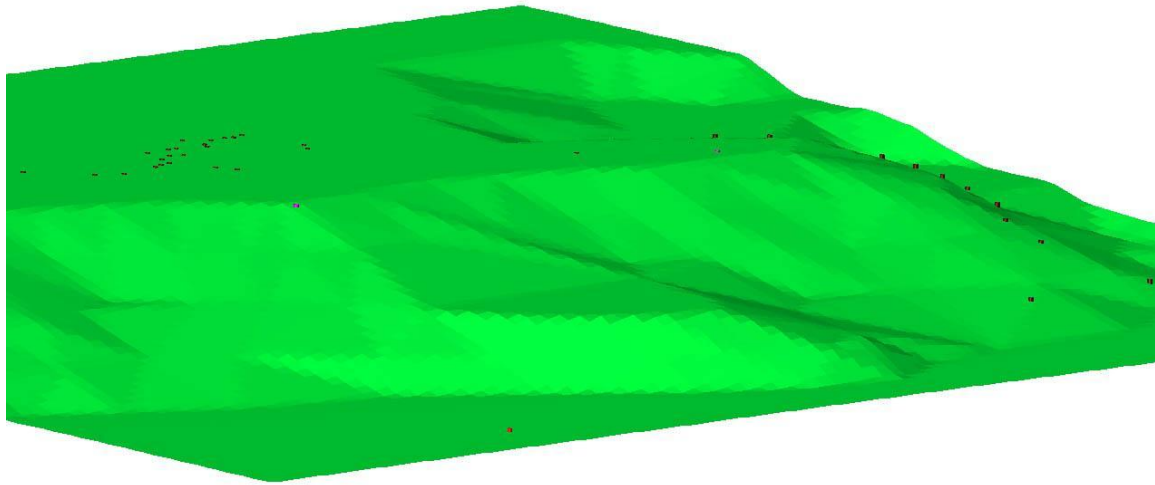




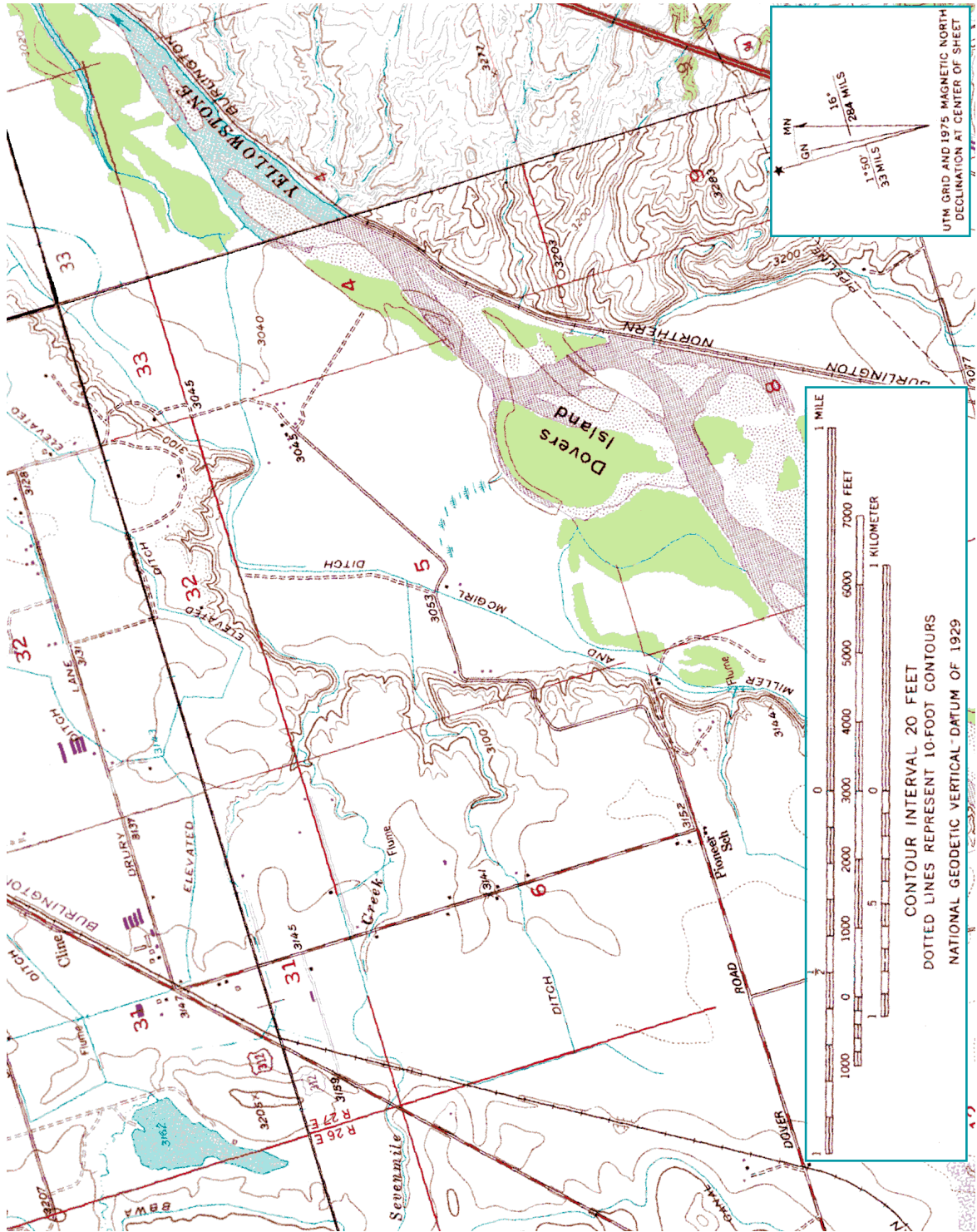
This image shows the points surveyed at Captain Ball’s skirmish line and Avenue of Approach. The points represent recovered cartridge casings and bullets.



This image shows the size of the area occupied by Company H, 2<sup>nd</sup> Cavalry (Captain Ball) in comparison to the entire battle site. The blue icons represent the locations of recovered cartridge casings and bullets.



This image shows Captain Ball's skirmish line and the avenue of approach to the line. The two red icons located on the crest of the hill are the locations of the Total Stations while the red icon located on the bottom of the map represents a witness rock and fence line boundary. The icons located on the top left portion of the map and along the slope of the hill located on the right portion of this map represent cartridge casings and bullets recovered by the principal investigators and project volunteers.



This map shows Baker's Battleground to scale and orientation to magnetic north.

**Captain Ball's Skirmish Line – Site No. 24YL1129 – Yellowstone County, MT**

Instrument Head Height Above Grade – 5'-6"  
 Prism Height Above Grade – 6'-0"  
 Instrument Shows VA 90° D, HR 0 D at Startup  
 Point Sequence in Order of Survey

Point Number	VA	HR	HDx (in decimal feet)
22	85.50.08	291.02.01	138.474
21	86.18.37	286.32.14	150.717
19	87.38.55	309.45.18	214.479
18	87.16.06	308.59.42	227.636
12	87.33.57	299.52.12	268.550
11	87.25.44	298.21.03	261.222
13	87.15.31	296.56.21	259.180
10	87.00.45	294.34.38	253.297
5	86.39.39	290.15.43	256.627
4	86.53.33	292.37.11	237.804
2	86.59.45	292.29.21	229.798
3	86.23.28	286.58.50	229.623
20	86.17.06	285.23.20	227.970
9	86.24.36	285.32.00	202.153
7	86.09.45	283.00.43	205.064
14	85.59.43	279.49.55	193.822
17	86.23.23	279.01.56	178.722
6	86.16.39	276.17.20	175.463
8	86.09.24	273.47.32	170.562
15	86.05.00	262.32.46	164.002
16	86.05.05	256.59.34	176.040
23	86.37.26	251.00.28	220.833
Ken Feyhl Stake	86.08.47	280.41.55	221.265
1	89.29.09	351.33.27	273.497
AA-500	89.16.43	3.08.21	480.387
093	89.18.39	348.47.03	486.536 (add 12'-6" to Prism)
AA-1	89.26.29	346.00.18	456.785 (add 10'-9" to Prism)
Property Stone X	99.25.04	109.10.44	454.036
(** Moved Instrument to New Location)			
24	98.41.49	61.03.32	318.669
111	100.35.45	87.15.32	297.549
25	98.46.30	59.50.35	236.284
Backshot to Pt. 1	92.04.00	213.32.02	94.903

(Instrument Reset on 5-29-03 at previous location for Additional Casings)

AA-500	89.33.58	2.20.04	129.182
30	91.03.58	3.52.14	185.484
27	92.31.37	21.29.20	152.475
26	90.36.42	11.07.06	139.691
28	93.00.55	26.37.59	188.254
29	97.11.47	44.50.46	210.679
25	98.40.06	50.55.34	236.080



### Captain Ball's Skirmish Line / Avenue of Approach – Total Station Survey Points

MT2CH001	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH002	.50/70 Benet cartridge case, fired in a Sharps carbine
MT2CH003	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH004	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH005	.50/70 Benet cartridge case, fired in a Sharps carbine
MT2CH006	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH007	.50/70 Benet cartridge case, fired in a Sharps carbine
MT2CH008	.50/70 Benet cartridge case, fired in a Sharps carbine
MT2CH009	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH010	.50/70 Benet cartridge case, fired in a Sharps carbine
MT2CH011	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH012	.50/70 Benet cartridge case, fired in a Sharps carbine
MT2CH013	.50/70 Benet cartridge case, fired in a Springfield rifle
MT2CH014	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH015	.50/70 Benet cartridge case, fired in a Sharps carbine
MT2CH016	.50/70 Bar Anvil cartridge case, fired in a Sharps carbine
MT2CH017	.50 bullet, Smashed
MT2CH018	.50/70 Benet cartridge case, fired in a Sharps Carbine
MT2CH019	.50/70 Benet cartridge case, fired in a Sharps Carbine
MT2CH020	.50/70 Bar Anvil cartridge case, fired in a Sharps Carbine
MT2CH021	.44 Bullet (deformed)
MT2CH022	.44 Bullet (deformed)
MT2CH023	.50/70 Bar Anvil cartridge case, fired in a Sharps Carbine
MT2CH024	.44 bullet (deformed)
MT2CH025	.50/70 Benet cartridge casing, fired in a Sharps Carbine
MT2CH026	.50/70 Benet cartridge casing, fired in a Sharps Carbine
MT2CH027	.50/70 Benet cartridge casing, fired in a Sharps Carbine
MT2CH028	Misfired .50/70 Bar Anvil Complete Bullet
MT2CH029	.50/70 Benet cartridge casing, fired in a Sharps Carbine
MT2CH030	.50/70 Bar Anvil cartridge casing, fired in a Sharps Carbine
MTBBAA500	.50/70 Low Crimp, Bar Anvil casing fired in a Sharps carbine
MTBBAA1	.50/70 High Crimp, Benet primed casing fired in a Springfield rifle
MTBB111	.45 Unfired Bullet, Berdan primed, NHS, Model 1873 or later.
MTBB093	non-battle related bullet – modern design

Note: The last four artifacts listed were found previous to the discovery of the skirmish line and therefore are labeled MTBB rather than MT2CH. However, MTBBAA500 and MTBBAA1 are relevant in that they probably were fired from soldiers under the command of Captain Edward Ball. MTBB111 post-dates the battle and MTBB093 is a modern bullet.

## Appendix K: Miscellaneous Images:



**Courtesy of the Dept. of the Interior, National Park Service,  
Yellowstone National Park**

**Picture # 1:** This photo shows a 19<sup>th</sup> century odometer. This type of instrument was used by the military expedition on the Yellowstone in the summer of 1872.



**Courtesy of Montana Historical Society, Helena, Montana**

**Picture # 2:** This photo of Major Eugene M. Baker and his officers was taken at Fort Ellis, Montana Territory, circa 1871 by W.H. Jackson.





**Courtesy of Montana Historical Society, Helena, Montana**

**Picture # 3:** Company “F”, 2<sup>nd</sup> Cavalry is shown in formation at Fort Ellis, Montana Territory, circa 1867 – 1872.



**Courtesy of Montana Historical Society, Helena, Montana**

**Picture # 4:** Fort Parker, east of Livingston, circa 1869 – 1871.

Major Baker visited Fort Parker and asked if any of the Crows desired to join the expedition, however he stated that it would be a mission of peace. None of the Crow elected to join the expedition. However, Bouyer was hired at Fort Parker to be chief guide for this expedition.

## **Appendix L: The Grave at the Site of Major Baker’s Battlefield**

As I have walked the trails of Montana, Wyoming and the Crow Nation for most of my 64 years. I have located many graves, both civilian, Military and Indian. The one thing that I found in common with most all of the early frontier graves is that they faced the rising sun at the time they were buried. When we visit most cemeteries today we find that the graves lie facing the east. Today they just lie east and west with the section lines of maps as they are surveyed in. Many cemeteries that lie in neat rows today were originally laid out in different directions. Grave yards were not in neat nice rows until after the early to mid 1900s. When I found graves that were laid out in the early years most of them face the rising sun at the time they were laid to rest. Most all of the graves were covered with stones to keep animals from digging them up.

When we visited the grave at the site of Major Eugene Baker's Battle on the Yellowstone, the first thing I checked after making the decision that this is a grave was the direction the grave faced. The site is covered with rocks that appear to have been disturbed at some time. There are the four black rocks that mark the corners of the grave. Someone may have come back to the grave and found it had been disturbed as there is a small pile of rocks in the center of the area.

In the accounts the location is said to be on the banks of the Yellowstone River. I visited the site and walked the area from the grave site to the old river bed. In my experience of walking old trails and doing much work from diaries I would say that the location on the banks of the Yellowstone River would be correct as it is close to the river and on high ground where I have found most graves to be. I laid a compass on the grave and it lies in a north eastern direction, which would face the rising of the sun in August. They would

not have buried anyone on the river bottom unless it was a real hurry up burial. The burial of Sergeant McClarren was not a hurried burial. The troop probably continued down river after his burial that day.

This grave is approximately one hundred steps from the Yellowstone River at the time of the battle and on a ridge that could be easily identified and is near the lines where troops fired at the Indian positions. Most military burials on the plains were made so the families could locate graves if they so desired. I can not say that this is the grave of Sergeant McClarren, I am sure that it is an old grave and circumstances could indicate that it is his grave. There was a Sioux warrior killed at this battle and the diaries do not indicate if the military buried him.

Howard Boggess  
Crow Indian and Historic Trails Historian

JAMES H. SINDELAR

3 Jan 2000

From: James H. (Jim) Sindelar

TO: Whom it may concern

Subj: Grant application for documentation & study  
of Baker's Battle

My grandfather, John H. Dover homesteaded on Dover's Island in the Yellowstone River during Oct 1881. In 1896 he connected his island to the mainland by blasting off a huge section of sandstone bluff and sealed off the North channel of the Yellowstone River. This quirk in the history of our ranch has protected Baker's Battleground & Tracy's landing from the erosive currents of the Yellowstone for the past 104 years. This old channel, which is adjacent to Baker's Battleground & is the site of Tracy's landing, is now a dry slough except for backwater during spring flooding.

I have personally worked with Dave Ekroth & John Hawkins during their previous examinations of Baker's Battleground. They have been extremely considerate to us as landowners and have followed up with information on their findings, both orally and in writing.



3114 DOVER ROAD • BILLINGS, MONTANA 59105



To Whom it May Concern:

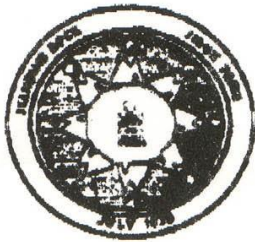
This letter deals with the efforts of David Eckroth and Harold Hagen as they have labored to preserve the history of Baker's battle and the area on which it took place.

Our family has owned this property since 1920, when Grandfather John Schroeder purchased it from Paul Evers estate. We have always been aware of the location of the battle, relying upon the information provided us by Dover and Janna Sindelar. Their Grandfather, John Dover, was an early Pioneer and he made certain his Grandsons learned what he had gleaned from history.

When this effort was begun, it was with our permission and blessing. Permission was granted to Mr. Eckroth and Mr. Hagen and whoever was to assist them from time to time. We did this because it was the first serious effort, to our knowledge, that research would be done on the battle.

It is important that we glean as much as we can about how our nation was settled. True that Native Americans were not always fairly dealt with, but two such different cultures could not easily be melded into one. Consequently the great struggles

Sincerely,  
William Michael Jr.  
President of Michael Land Inc.



**T** RIBAL HISTORIC PRESERVATION OFFICE  
**S** TANDING ROCK SIOUX TRIBE

November 20, 2000

Tribal Planning Office  
P.O. Box D  
Fort Yates, N.D. 58538  
Tel: (701) 854-2120  
(701) 854-7265  
Fax: (701) 854-2138  
Toll Free: 1-877-510-1967  
E-mail: wkurtz\_sst@psd@we.stny.com

Ms. Ginger Carter  
National Park Service  
American Battlefield Protection Program  
1849 C street, NW, NC 330  
Washington, DC 20240

Dear Ms. Carter:

Our office supports the endeavors of Frontier Heritage Alliance (herein FHA) regarding their project titled "The Baker Battle on the Yellowstone, August 14, 1872." I discussed with Mr. Boggess that individuals with knowledge should tell the tribal perspective and secure that information before our precious elders leave us.

Mr. Boggess and I also had a discussion regarding bridging our tribal understandings and perspectives together related to our oral, spiritual and physical connection to these types of areas. I offered to be that conduit for assisting in establishing a relationship of elders amongst other tribes in these areas to discuss tribal history. This project should start the foundation for this.

The Standing Rock Tribal Preservation Office may identify a target age of elders, perhaps individuals born after 1900 -up through- 1940 and measure their understanding per ten (10) year intervals and four levels of understanding. This will assist "FHA" process and will secure all information regarding tribal engagement areas, spiritual areas, and secure additional information after 1940, as available.

Thank you for accepting these comments on this very important project. Should you have a comment to this letter, please call me at 701-854-2120

Sincerely,

Tim Mentz Sr.  
Tribal Historic Preservation Officer  
Standing Rock Sioux Tribe

Mr. Tim Mentz Sr. • Tribal Historic Preservation Officer  
William Kurtz • Tribal Archaeologist

