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In search of the Fraeb battlefield and trading post, August 1841

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During the late 1830s and early 1840s, trading posts in Wyoming were relocating to major waterways and trail systems to capture the burgeoning indigenous bison robe and overland Euroamerican emigrant trade. Recent research discovered references to a “Fraeb’s trading post” operating in southern Wyoming during the 1830s. Wyoming cultural records also contain a site form for 48CR1184, the “Bridger and Fraeb trading post,” located in south-central Wyoming. The construction of a post in southern Wyoming during the 1830s would have been at odds with developing economic models. Historical references describe a battle between Euroamerican trappers and Native Americans near the supposed Fraeb’s trading post. However, reliable references to the nature of the structure associated with the battle have not been discovered. In 2011, the authors conducted archaeological investigations in an effort to locate the battle site and possible remains of the post to gain insight into historic activities at this location.

KEYWORDS fur trade, Henry Fraeb, trading post, historic archaeology, dendrochronology

This article is an outgrowth of work by the senior author developing a multiple property nomination on trading posts in Wyoming for the State Historic Preservation Office (Pierce 2012a), and a public booklet on the same subject (Pierce 2012b). In the nomination, information was analyzed for 29 trading posts occupied between 1832 and 1868. Thirty posts were originally considered, however, no unambiguous information could be found regarding Henry Fraeb’s trading post which was reported to be located in the Little Snake River Valley in southern Wyoming or northern Colorado. This lack of substantive historical or archaeological information on Fraeb’s trading post prompted its deletion from the list of trading facilities in the multiple property document (Pierce 2012a).

Still, historical accounts do mention a battle between Native Americans and Euroamerican trappers, including Henry Fraeb, in south-central Wyoming or northern Colorado in 1841 where Fraeb was killed. While several of these sources mention the presence of some type of structure, referred to by some as a post or trading post, the nature of this facility has yet to be completely understood. The current understanding of fur trading activity in the Rocky Mountain and High Plain regions of the West during the 1830s and 1840s indicates that the Native American beaver trade, which had been the primary focus of Euroamerican traders during the previous decades, was being supplanted by the indigenous bison robe trade (Dolin 2010:279–280, 293; Gardner et al. 1991:14–17; Mattes 1980:6; Wishart 1979:10, 65–66). Furthermore, Native American trade was being integrated into a larger exchange network in which Euroamerican traders began to focus significant attention on providing goods and services to passing emigrants (Pierce 2012a:28–30; Unruh 1993:244).

The development of new trade networks coincided with a shift in the building of trading posts to locations along major waterways and the overland trails. For this reason, a trading post operating in the Little Snake River Valley, well away from developing riverine transportation networks and emigrant routes should be considered anomalous and warrants further investigation. This paper presents historical data referencing Henry Fraeb's last battle and trading post, describes the archaeological investigations undertaken to locate the battlefield site, and synthesizes the historical and archaeological datasets in an effort to develop a working hypothesis. This hypothesis can not only aid in predicting the battlefield location and help to determine the likelihood of the existence of an associated trading post at this site, but serve to inform future work which may shed light on to the nature of the nineteenth-century activities at this location.

Historic preservation offices in Colorado and Wyoming house archaeological site records for the Little Snake River Valley including those for the period Henry Fraeb fought and died in the area. Wyoming State Historic Preservation Office cultural records contain a brief description of site 48CR1184 which is identified as the Bridger and Fraeb trading post in Carbon County. The source for the location and name of the trading post is the Henderson Rawlins Map depicting a location labeled "Bridger & Fraeb's Fort 1830–1841. Fraeb killed here Aug. 1841" (Henderson and Henderson 1970). Henderson Maps were created by Paul and Helen Henderson, nationally recognized authorities on the history of the United States' nineteenth-century westward expansion, who spent more than 50 years documenting sites associated with this phenomena (Legacy of the Plains Museum 2015; Waitman et al. 2000:i). In 1966, Paul became the Historian for the State of Wyoming Parks Commission where he recorded various historic sites associated with American westward expansion (Junge 1993:2; Waitman et al. 2000:92). From 1970 to 1973, he used this information to generate maps of the historic trail systems across Nebraska and Wyoming (Waitman et al. 2000:93). Based on historical sources, the nature of which were not disclosed in the Henderson documents, the Henderson Map places the location of Fraeb's trading post somewhere in the extreme southern part of Carbon County, Wyoming (Figure 1) near the Fort Davy Crockett road of 1839 and adjacent to the suspected battlefield (Henderson and Henderson 1970).



FIGURE 1 Location of Fraeb's trading post and battlefield site (ESRI 2013).

The Colorado Office of Archaeology and Historic Preservation has a site form (5RT429) for the location of the battlefield site where Fraeb was killed in 1841 (Kevin Black, personal communication October 2012). The site is in the northwestern corner of Routt County, Colorado just across the state line from the Wyoming site mentioned above, and near the confluence of Battle Creek with the Little Snake River. The post and battlefield, therefore, are supposedly located on the same landscape based on these historical sources (Deland 1922; Denver Tribune-Republican 1886; Frémont et al. 1845; Sage 1846; Stansbury 1852). In order to identify the battlefield location and possible associated structures investigators must separate historical references to the trading post and battlefield to evaluate whether or not both existed. Unfortunately, no physical evidence was reported on either site form for these locations, so a more critical evaluation of the primary and secondary historical sources is needed.

A dilemma in historical archaeology

There is an important distinction between archaeological investigations of prehistoric sites versus those of historic sites. Prehistoric research typically begins by finding

physical evidence for human occupation on or eroding from the landscape. Since there are no written records from the prehistoric past, archaeologists normally do not know an event took place until they find physical evidence for its occurrence. The site might then be tested to establish contextual integrity and significance, and eventually receive full-scale excavation guided by a problem-oriented research design. This model can be applied to the archaeological investigation of historic sites as well. Historic sites can also often benefit from text-aided research that produces clues which can direct subsequent archaeological field investigations, such as with the 1867 Wagon Box Fight in northern Wyoming (Miller et al. 2000). However, as in the case of Fraeb's battle, the written records may be too vague regarding location. In instances like these, investigators know an event occurred somewhere on a general landscape, but do not know the specific location where activities may have left an archaeological record (see Walker 2013). In worst case scenarios, it might not be possible to confirm any archaeological site survived after the events took place, especially when considering a battle which occurred in less than a day's time. In circumstances when historical archaeologists are able to obtain relevant documents and archaeological data about past human activities investigators can develop more robust interpretations (Deagan 1996:18). In this paper, we examine both lines of inquiry to narrow the search for an early historic battlefield and resolve whether or not a nearby trading post ever existed.

Who was Henry Fraeb?

Leroy Hafen (1966:131-139) compiled valuable information on the obscure personal history of Henry Fraeb (also known as Frapp to some of his contemporaries). Fraeb was a German from St. Louis, Missouri whose birth year is unknown. Records on his exploits begin in 1829 when he was already a veteran mountain man attending the Pierre's Hole rendezvous that year. At this time, he was associated with Milton Sublette and Jean B. Gervais trapping the Big Horn and Yellowstone country (Munnick 2000:123; Sunder 1959:82-83). Between 1830 and 1834, Fraeb and four partners managed the Rocky Mountain Fur Company after buying the business from Jedediah Smith, David Jackson, and William Sublette (Hafen 2004:36). Fraeb's partners in the enterprise were Thomas Fitzpatrick, James Bridger, Milton Sublette, and Jean B. Gervais. Fraeb attended the rendezvous between 1830 and 1834 and trapped in the regions of what would become Wyoming, Colorado, Idaho, and Utah. In 1832, his wife had a baby after his group of trappers left Pierre's Hole battlefield in Idaho (Hafen 1966:133; Hardee 2010). This suggests there may be Fraeb descendants today who could have additional undiscovered information about him.

The Rocky Mountain Fur Company dissolved in 1834 at the rendezvous on Ham's Fork of the Green River (Hafen 1966:135). After the dissolution of his company Fraeb continued to work the Rocky Mountain region as an independent trader (Hafen 2004:38). By the summer of 1837, Fraeb and Peter Sarpy were backed financially by Pratte, Chouteau, and Company of St. Louis to operate Fort Jackson, a trading post on the South Platte River in present-day eastern

Colorado. The partners ran the post for just over a year then transferred the establishment to William Bent and Ceran St. Vrain in October 1838 (Newton 2012:243–250).

According to Hafen (1966:136–137), Fraeb returned to St. Louis before again heading west with Jim Bridger in the spring of 1840 to attend the last rendezvous. The two men formed a partnership that soon led to efforts, in midsummer 1841, to build a trading post on the Green River between the mouths of Big Sandy and Black's Fork (Gowans and Campbell 1975:10).

With the post not yet completed in July of 1841, Fraeb and his men were on the Green River as the John Bidwell emigrant wagon train came through, led by Fraeb's old partner Fitzpatrick. Henry Fraeb's group purchased whiskey from the wagon train, and then headed southeast toward the Yampa River in Colorado to hunt buffalo. What exactly happened after they traveled southeast is not entirely clear, but Henry Fraeb never returned to finish building his trading post with Jim Bridger.

Fraeb's battle

According to one account, after Henry Fraeb and his men left the Bidwell emigrant train at Green River they continued south into northern Colorado (Vestal 1946:138). In Colorado, they encountered a group of Sioux, Cheyenne, and Arapaho, and although providing liquor to Native Americans was illegal Fraeb still traded his recently acquired whiskey for meat they had gathered and processed in the Yampa Valley (Ewers 1997:54; Vestal 1946:138). Returning north to the Little Snake River country, Fraeb went with part of his group to kill more buffalo and make additional dried meat. When the tribesmen sobered up, they realized they had given away most of their meat, making them angry toward Fraeb and his men (Vestal 1946:138). The Sioux, Cheyenne, and Arapaho party entered Wyoming intent on stealing horses from Fraeb's group, but somehow bypassed Fraeb hunting in the Little Snake/Muddy Creek country (Vestal 1946:138–139). The allied tribes then attacked a village of Shoshone connected with Fraeb's meat gathering efforts (Vestal 1946:139). The Sioux and their allies stole over 100 horses, prompting the Shoshone to head back toward the Green River and the safety of Bridger's group (Stocks 1994:17–18). Driving their stolen horses north, this same group of hostile tribes later encountered a man named Borkoum at Five Buttes in another of Fraeb's dispersed camps north of present-day Dixon, WY and attacked it (Stocks 1994:17–26). Meanwhile word had gotten back to Bridger about the attacks and raids by the Sioux, Cheyenne, and Arapaho so he dispatched Jim Baker (Figure 2) to warn Fraeb of the pending danger (Stansbury 1852:240; Stocks 1994:25; Vestal 1946:139).

The initial hostility toward Fraeb's Shoshone horse herd may have been the incident recorded in the Williams narrative from the Bidwell Wagon Train in mid-August (see Alter 1962:194–195). Williams' narrative of travels on the Oregon Trail in 1841 to 1842 was not printed until 1843, giving the author ample time to add pieces of information to his chronology (Williams 1921:15–16). For instance, Williams (1921:42) writes that on Friday, July 23, 1841 “We lay on Green River



FIGURE 2 Jim Baker. Photo courtesy of Carbon County Museum, Rawlins, Wyoming (1949.068.0163).

bottom, where we fell in with Mr. Frap, who was on a hunting expedition. This man, with nine or ten of his company, was afterwards killed in a skirmish with the Sioux Indians.” This account clearly shows the author added information after the fact. Several days prior to August 21, outside Fort Hall, Williams (1921:46) writes “Here news came to us that about two hundred Sioux had attacked Frap’s company, mentioned in a former part of my narrative.” However, there is no explicit pronouncement that the news received that day was of the death of Fraeb, so it could have been a reference to the earlier Indian attack on Fraeb’s Shoshone allies.

Nonetheless, after the Sioux, Cheyenne, and Arapaho attack at Five Buttes, Borkoum rode south to warn Fraeb and reached his friend about the same time Jim Baker arrived from Green River (Baker 1983:47). Fraeb and his trappers broke camp on August 20, trailed up the Little Snake River to the foot of Bastion Mountain (later known as Battle Mountain), and then headed for the confluence of a south flowing stream that emptied into the Little Snake River (Stocks 1994:28). This stream became known as Battle Creek. Anticipating a pending attack by the allied tribes, the trappers built a rudimentary fort/corral to protect

themselves and their horses (Deland 1922:291; Denver Tribune-Republican 1886:2; Hafen 1966:138; Stocks 1994:28; Vestal 1946:139).

Jim Baker and a trapper named Vandusor were butchering two cow buffalo near Cantlin Creek on the morning of August 21, 1841 when they noticed a cloud of dust obscuring a large group of Sioux, Cheyenne, and Arapaho warriors who soon chased the two men upriver to Fraeb's fort (Stocks 1994:30–32). The allied warriors charged the fort over 40 times during the day, killing Fraeb, a few other trappers and Shoshone allies, and over 100 horses (see Table 1) (Deland 1922:291; Denver Tribune-Republican 1886:2; Frémont et al. 1845:40). They continued pressure on the trappers until nightfall, then, following a half-hearted charge the following morning, left the scene heading north (Stocks 1994:33–39). Low on powder and lead, the trappers buried their dead, cached their supplies, and left for Bridger's fort on the Green River, arriving there on the 27th of August (Stocks 1994:39).

Fraeb's trading post and Fort Davy Crockett

Before discussing the archaeological search for the battlefield, the possible Fraeb trading post needs discussion. In the decades following the 1840s, historical references mention the presence of Fraeb's trading post in the northern Colorado or southern Wyoming region (Deland 1922; Denver Tribune-Republican 1886; Frémont et al. 1845; Sage 1846; Stansbury 1852). The construction of a trading post in this region during the late 1830s to early 1840s would have been unusual, due to the transition from the beaver trade to the bison/emigrant trade model discussed earlier and the subsequent shift of trading posts to locations on major waterways and well developed overland trail systems, but not unprecedented.

Some contemporary posts such as Fort St. Vrain, Fort Uncompaghre, and Fort Davy Crockett which dealt primarily in trade with Native Americans were placed on smaller waterways away from the overland emigrant trails. Fort Davy Crockett, geographically the closest to the possible location of Fraeb's trading post, was located in Brown's Hole in northwestern Colorado (see Eddy 1981). Fort Davy Crockett was constructed in the mid- to late 1830s and exchanged goods for furs, horses, and money to Euroamerican trappers and Native Americans living and working in the central and southern Rocky Mountains (Hafen 1962). Fort Davy Crockett was abandoned in 1840 with the collapse of the beaver trade (Frémont et al. 1845:279–280; Hafen 1962; Wislizenus 1912:129).

Fort Davy Crockett was operated by William Craig, Philip F. Thompson, and Pruet Sinclair. Sinclair was also referred to in the historical literature as St. Clair and is known to have worked the northern Colorado, southern Wyoming, and eastern Utah region of the West from 1830 to at least 1840. Sinclair operated Fort Davy Crockett until 1840 and is reported to have settled in Santa Cruz County, California by 1843 (Hafen 1962:23). His whereabouts between 1840 and 1843 have not been documented. While no historic documents have been uncovered which definitively tie Pruet Sinclair to the Fraeb battle the limited number of Euroamericans in the region during the 1830s and 1840s, the absence of another Sinclair or St. Clair in the literature, the regular movement of trappers and traders between the

TABLE 1
 LIKELY PARTICIPANTS IN THE FRAEB BATTLE, AUGUST 1841*

Name	Comments
1. Henry Fraeb	Leader of the trappers. Killed in action
2. Jim Baker	Interviewed over four decades after the battle
3. Basil Clement (Claymore)	Interviewed over four decades after the battle. See Carefall
4. Ephraim Brown	Killed in action
5. F. Contouire	Killed in action. (Possibly Contraire)
6. Desplaines	Killed in action
7. Jean Baptiste Gervais	Gervia
8. Borkoum	(Sometimes Borkhume, possibly Burgholm)
9. Vandusor	
10. A. Woods	(Possibly Andrew Woods)
11. Thomas Whitby	
12. James Moran	
13. Battise Shattis	(Possibly M'etis ... halfbreed)
14. Bill Rodgers	
15. Charles Lowall	(Possibly Lowell)
16. M. Martin	
17. J. O. Pu	(Possibly Pugh)
18. John Jackson	
19. Joseph Martz	
20. Bousoner	(Possibly Buissonnier... bushy)
21. Bishop	
22. St. Clair**	(Possibly Sinclair)
23. St. Orange	(Possibly Saint Laurent)
24. Gegear	(Possibly Guetteur... lookout man)
25. Laguish	(Possibly Linguiste ... interpreter)
26. Carefall	(Possibly Kreuzfeldt). This also might be Basil Clement

*Adapted primarily from Stocks (1994:41).

**St. Clair may refer to Pruett Sinclair, owner of Fort Davy Crockett.

Brown's Hole and Platte River regions, as well as the connection of Fraeb and members of his party to Fort Davy Crockett through 1840 leave open the possibility that Pruett Sinclair may have been involved in Fraeb's last battle (see Table 1).

If Fraeb's trading post existed, it would have shared geographic and temporal similarities with Fort Davy Crockett, which might have meant competition in the market place. Beyond this, it is likely the nature of these two facilities differed. Fort Davy Crockett was a permanent establishment which traded goods for furs and horses with the local Native American populations and exchanged with local trappers. Fraeb's trading post, on the other hand, was likely not permanently

occupied and rather than serving as a primary trading post would have served as a temporary establishment since Fraeb was already building a new post with Jim Bridger on the Green River. It is far more likely that Fraeb's trading post was either a structure used by Fraeb and others when they traveled through the region to hunt or trade with the local tribes or it was a collection of temporary or expedient defensive features such as corrals, stockades, and rifle pits that were constructed in response to the pending hostilities related to Fraeb's last battle.

Battlefield or trading post

The general location of the Fraeb battlefield was mentioned decades after the encounter by two eyewitness participants who had fought with Henry Fraeb in 1841. Jim Baker told a friend (School District Superintendent John A. Campbell) in 1896 that he could show him rifle pits that still remained from the engagement, which he described as being at the mouth of Battle Creek "in Routt County, less than a half mile from the Wyoming line" (Hafen 2004:40-41). Basil Clement (Claymore) (Figure 3) is the only other known eyewitness account. Charles Deland interviewed Clement three times between 1899 and 1909 to give accounts of his life (Deland 1922:281). Clement recalled that at the Fraeb battle "all that we had to protect us was dead horses, we made a fort of them" (Deland 1922:291). Baker added from an 1886 interview that "we made breastworks of our horses and hid behind stumps" (Denver Tribune-Republican 1886:2; Hafen 1966:138), suggesting nearby cottonwoods may have been cut down, a precaution which would have helped corral the horses and strengthen defenses.

Technically, the Baker and Clement interviews might not be considered primary because they were written by people who spoke with the participants, but were not present at the battle. The accounts were also written more than 50 years after the battle, making further caution in their use necessary. Nonetheless, if we assume these accounts are accurate, they are closer to being primary references than the rest of the known battlefield literature. Other statements in the mid-nineteenth century often chronicled observations made by nonparticipants who talked to other nonparticipants. Clearly, a data gap in this research is the question of whether any other battlefield survivors recorded their recollections elsewhere.

No mention exists in the eyewitness accounts for any other type of fort construction besides rifle pits, piled dead horses, and tree stumps. These site components are indicative of temporary or expedient features constructed to provide a quick or hasty defensive perimeter in response to pending hostilities. The earliest secondary references mention a fort on the battlefield. Rufus B. Sage traveled through the area in 1842 to 1843 and recalled passing "a fort, formerly occupied by a company of trappers under the command of Frapp, near which himself and four other whites were killed in an engagement with the Sioux some two years since" (Hafen and Hafen 1956, Vol.II:184). About the same time, John Charles Frémont noted that while passing through the area "a few miles above was the fort at which Frapp's [Fraeb's] party had been defeated two years since ..." (Jackson and Spence 1970:709). Howard Stansbury (1852:239) also mentioned the location



FIGURE 3 Basil Clement. Photo courtesy of the State Archives of the South Dakota State Historical Society.

during his return from Salt Lake to Fort Leavenworth on Wednesday, September 18, 1850. The battlefield was about a mile below Stansbury's camp, and according to his journal notes on Fraeb's battle "They fortified themselves in the corral, the attack lasted from 12 o'clock until sundown ..." (Madsen 1989:642). Stansbury learned this information from Jim Bridger who was guiding Stansbury's party at the time (Stansbury 1852:239). Bridger had learned about the battle after Jim Baker and the other survivors returned to the Green River in 1841.

Stansbury's September 18 account recalls:

Intelligence of this onslaught reached Major Bridger, then occupied in erecting a trading post on Green River; he sent Frappe advice to abandon his post at once, for fear of worse consequences. The advice, however, was neglected, when, about ten days after, as his party was on their way to join his partner, they were again suddenly attacked by another large party of the savage allies. He had but forty men; but they instantly 'fortified' in the corral attached to the trading post, and stood on their defense (Stansbury 1852:240).

Stansbury's 1852 account discussed the timeline beginning with Bridger hearing about unrest in the area, and is the earliest reference found suggesting Fraeb's fort/corral was anything more than dead horses, stumps, and rifle pits. Furthermore, Stansbury's account developed from the transcription of a conversation between himself and Bridger, two people who had not been at the battle. This statement would become a standard description of Fraeb's fort.

Bartlett picks up on the possibility of a trading post when he mentions in his early history of Wyoming:

Fraeb's Post, established about 1837 or 1838, was built by Henry Fraeb and James Bridger on the St. Vrain's fork of the Elkhead River, a short distance west of the Medicine Bow Mountains. Fraeb was killed by Sioux Indians in August 1841, and the post was soon afterward abandoned. At the time Fraeb was killed the post was attacked by a large war party of Sioux. In the action the Indians lost ten killed and a number wounded, and the whites lost five. The post stood almost on the line between Wyoming and Colorado (Bartlett 1918:107-108).

Subsequent historians have followed Bartlett's lead on this theme and argued the trading post and Fraeb battlefield were at the same location (Barnhart 1969:35-38; Henderson and Henderson 1970; Urbanek 1988:75). While many modern historians have based their analysis on the aforementioned nineteenth-century documents, inconsistencies can be found in these historical sources. Perhaps the most troublesome incongruities relate to location and time. The St. Vrain (Savery) River and Battle Creek, two landmarks mentioned as locations of the battle and associated structures, are actually about 15 miles apart. Additionally, sources citing the construction of the trading post in 1837 to 1838 by Fraeb and Bridger are at odds with other historic documents indicating that Fraeb was in fact partnered with Peter Sarpy during those years, not Jim Bridger (Hafen 2004:38).

In spite of these discordant issues, the term "fort" or "post" may be an accurate reference to a defense perimeter consisting of a stockade or corral and rifle pits at the Fraeb battle because of the construction effort exerted in preparation for the attack. The term "trading post" on the other hand may have found its way into the literature following a misinterpretation by Stansbury of Bridger's discussion with him in 1850. The trading post Bridger was erecting at the time of the battle was near Green River and was an undertaking done in partnership with Henry Fraeb (Gowans and Campbell 1975:10). Gowans and Campbell (1975:10) note Jim Bridger and Henry Fraeb originally had been building a trading post on the Green River between the mouths of Black's Fork and Big Sandy in midsummer 1841. Those authors consider this Green River post to be the first Fort Bridger (48SW4074), but the buildings were not entirely completed by the time Fraeb was killed in August in the Little Snake River Valley. This could have been the trading post Bridger related to Stansbury in the September 18 conversation. Stansbury may have confused it with defensive construction at the Fraeb battle location on the Little Snake River when he wrote his official report.

Who was in the battle with Fraeb?

More primary source information addressing the questions of site location and feature patterning would be preferable, but we do not know if other participants have documented their experiences. Forty-five years after the battle, Baker recalled there were 23 men who fought in Fraeb's group (Hafen 1966:138). Clement stated in his narrative they had 47 men (Deland 1922:291). This numerical discrepancy might be accounted for if Clement was counting Shoshone allies in his total while Baker was not. We have not found names for the Shoshone participants.

While the discrepancy between the actual numbers of participants is difficult to unravel, we believe there to have been around two dozen Euroamerican participants based on Jim Baker's accounts, as he is the only individual to provide names for the participants of the battle. Jim Baker and Basil Clement claimed to have been there (Deland 1922:291; Denver Tribune-Republican 1886:2). Baker (1983:47) mentions three other trappers who died along with Fraeb: Ephrain Brown, Desplaines, and Contouire. Stocks (1994:41) lists phonetic spellings for 25 trappers at the battle compiled from his access to Jim Baker's information. With these combined data, 25 to 26 white trappers were likely in the battle (Table 1). Stocks (1994:41) does not specifically list Basil Clement, but Clement's own accounts indicate he was present (Deland 1922:291–292). The name Carefall in Stock's (1994) listing could be a derivation of Clement or Claymore. While St. Clair tabulated as being in the Fraeb party (see Table 1) could have been any one of a number of trappers, traders, and adventurers in the West during this time. Pruett Sinclair, who had operated Fort Davy Crockett, was familiar with the region and with many of the trappers in Fraeb's party, leaving open the possibility he was at Fraeb's last battle.

Archaeological and dendrochronological investigations

A review of the historical literature referencing Fraeb's last battle and trading post does not provide precise locational data for the battlefield, nor does it provide definitive evidence of permanent structures at this location (Deland 1922; Denver Tribune-Republican 1886; Frémont et al. 1845; Sage 1846; Stansbury 1852). However, even in the absence of historical or archaeological evidence Fraeb's presence in the region and his familiarity with the area, perhaps as early as 1836, leave open the possibility that a trading post or some other structure associated with Henry Fraeb may have existed in the Little Snake River region that has yet to be substantiated by current research. Archaeological investigations were undertaken in 2011 in an attempt to locate the Fraeb battlefield and any associated structures so as to provide a basis from which future research could begin to address broader issues relating to activities at the proposed Fraeb's trading post during the mid-nineteenth century.

The most likely place to begin an archaeological field study would be to search for the remains of Fraeb's fort as described by the two battlefield participants, Baker and Clement. These accounts place the battlefield and post near the confluence of Battle Creek and the Little Snake River. The Little Snake River meanders through an east-west oriented valley. The area is characterized by steep cut banks, up to 2 m high,

and broad depositional zones. Terraces in the valley have been, and continue to be, heavily impacted by agriculture resulting in flat, open fields interspersed with cottonwood stands of various ages along drainages and terrace edges. In the vicinity of Battle Creek terraces to the south of the Little Snake River are narrow and long, or non-existent as the terrain rises sharply from the river valley to the hills and mountains to the south. North of the Little Snake River, in the vicinity of Battle Creek the terraces are wide and slope gently to the north following the 400 m-wide drainage. This Battle Creek drainage is bounded to the west and east by sharper rises to hills and mountains in each direction.

The battle took place over 170 years ago, so it probably is unrealistic to expect tree stumps or cut logs, in a riverine environment such as this, to survive as anything more than buried organic stain, rotted pulp, or charcoal concentrations if the trappers burned any wood. According to Jim Baker, some of the rifle pits could still be seen at the close of the nineteenth century, however, these could have filled in with sediment since then. The remains of the individuals killed in the battle may also be located in the vicinity if they were indeed buried at the site of the conflict (Stocks 1994:39).

Bones from over 110 horses would be another battlefield attribute. They might be preserved beneath the ground surface. Interestingly, the local landowner was looking for the battlefield a couple of decades ago when he found buried horse bones in one of his pastures (George Salisbury, personal communication 1987). He was hoping he had located the battlefield, but was disappointed when the discovery only turned up horse bones. The location of his discovery was not recorded, though it could have been a remnant of the battlefield.

Researchers must be clear regarding what part of a battlefield they plan to investigate since the archaeological record can vary dramatically across a battlefield landscape (Fox and Scott 1991; Miller et al. 2000:91–128; Walker 2013). Horse bones, rifle pits, and tree stumps would relate to defense perimeter construction on the landscape occupied by Fraeb's trappers during the battle. Maneuvers and multiple attacks by the Sioux, Cheyenne, and Arapaho aggressors were probably more ephemeral and fluid across a much larger landscape around the defense perimeter.

The trappers would likely have been armed with an assortment of smoothbore flintlock Northwest guns of 0.50 or 0.70 caliber or their favorite percussion cap muskets and pistols (see Baker 1983:47; Butler 1971:77–83; Hanson 2001:15–19). The latter weapons were likely large caliber (about 0.54 or 0.69) and may have been rifled. Consequently, among others, trapper firing positions may be marked by discarded gun flints, percussion caps, spilled black powder, and unfired lead balls.

It would be difficult to find the Native American mobile firing positions since they probably were on horseback and supposedly made 40 charges across a broad landscape (Denver Tribune-Republican 1886:2). Some fighters may have been armed with smoothbore flintlock trade guns (Baker 1983:47; Russell 1957:59–60, 104–105). Secoy (1953:60) has argued that the full Horse and Gun period among Indians is signaled by “an increase in the number of guns from a supply sufficient to equip only a few men in each group to an arsenal capable of outfitting fifty percent or more of the warriors in the tribe.” For the Wyoming area, the Horse

and Gun period developed between 1810 and 1842 (Miller 2012:25). Native American groups in the area had probably completed their military transition by the time of the Fraeb battle, so around half of the combatants could have had guns. The other fighters apparently used bows with metal tipped arrowheads (Hanson 2001:26–30). Metal arrowheads and large caliber lead balls fired by Indians should be found near intended target positions defined by trappers concealed behind the defense perimeter. The combination of incoming metal arrowheads and spent lead balls, along with spent gun flints and percussion caps, is expected to indicate the defensive perimeter of Fraeb's last battle. No evidence has been found in the literature arguing that Indians breached the defenses and took part in hand-to-hand combat with the trappers, which could leave a more diverse artifact assemblage.

While historic references do not provide a precise location to Fraeb's trading post or battle site, the literature was helpful in narrowing down the search field. Contemporary accounts referencing landmark information lists rivers, streams, and mountains which were used to identify the likely location of Fraeb's last battle. Landmarks mentioned multiple times in both primary and secondary accounts were used to focus the investigation. These sources placed the trading post/battlefield in the Little Snake River Valley at the foot of Squaw Mountain. This focused archaeological investigations on a two square-mile area of the Little Snake River Valley between the drainages separating Squaw Mountain from topographic rises to the east and west (Figure 4).

A preliminary reconnaissance survey of this portion of the Little Snake River drainage was conducted in May 2011. The authors walked and inspected the cut bank edges of the northern and southern terraces along the Little Snake River at the base of Squaw Mountain. This effort revealed over a mile of T1 terrace remnants north and south of the river which could contain remains of the trading post/battlefield, but no archaeological evidence of mid-nineteenth-century activity was discovered. The survey area was too large to focus subsurface or geophysical investigations and the active nature of stream down-cutting raised the question as to whether any archaeological evidence was intact. Consequently, a dendrochronological study was undertaken in the fall of 2011 (Figure 5) to narrow the search field by identifying terrace remnants possibly dating to 1840.

The use of cottonwoods in archaeological and non-archaeological dendrochronological studies for the purpose of investigating terrace formation, stream channel migration, and sediment transport and deposition has been established by previous studies (see Everitt 1968; Reher and Scheiber 1995; Speer 2010:269). Based on this work, a 40 cm tree coring bit was used to extract a sample of 10 cores from cottonwood trees (*Populus* sp.) arrayed on the northern terrace of the Little Snake River. Other flora in the area consisted of riparian grasses, small willows, and one small pine tree less than a meter tall, leaving only the cottonwood available in sufficient numbers for testing. Fortunately, cottonwoods are adapted to riverine environments and deal well with flooding and depositional events. The abundance of water and little competition from other vegetation allowed for many of the trees in the survey area to exceed the average lifespan of cottonwoods.

Cores were taken from the largest trees located at intervals of 50 to 100 m along multiple trajectories beginning near the river and perpendicular to it. Areas with

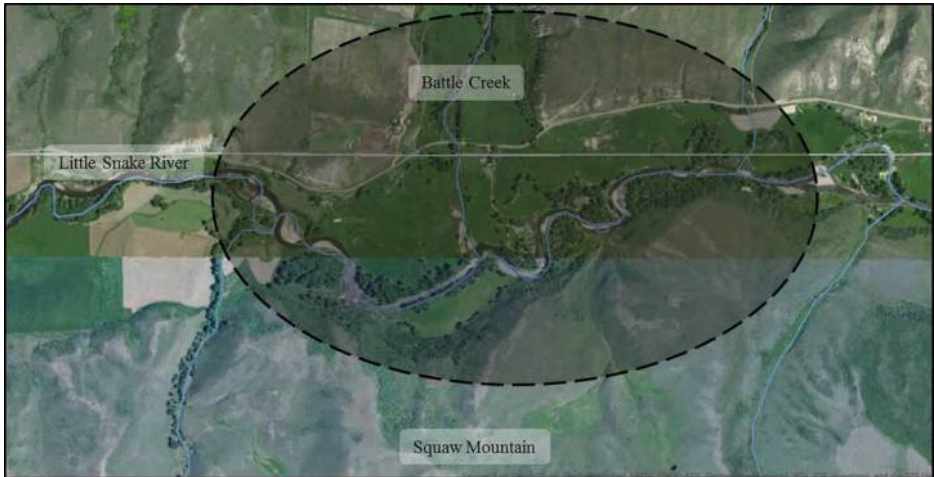


FIGURE 4 The Little Snake River country near the mouth of Battle Creek in the vicinity where the trading post or battle may be located, based on locational references in historic texts (ESRI, i-cubed, USDA FSA, USGS, AEX, GeoEye, AeroGRID, Getmapping, and IGP 2013).

dense tree growth were sampled every 50 m while terrace portions with sparser growth were sampled approximately every 100 m. Tree locations were recorded by a handheld *Garmin™ eTrex* GPS. Attribute data were recorded for each sampled tree including diameter, distance from river, and core height. Cores were dried and rings counted to provide an age for each tree.

The 10 samples produced ages ranging from 90 to 125 years (Table 2). The oldest dates come from a specimen located well away from the river terrace edge and west of Battle Creek, and from three samples located on an aggrading portion of the terrace east of Battle Creek. Unfortunately, none of the core dates are contemporary with Fraeb's trading post or battlefield, but this does not mean the sampled trees do not date to the mid-nineteenth century. When comparing sample core length to tree diameter, it is clear the center of only one tree was reached (Core Sample A9). This tree sits on an active portion of the terrace near the mouth of Battle Creek. Lateral changes in the stream channel likely have disturbed the terrace in this area, resulting in the lack of large older trees. The failure to reach the center of other specimens makes an exact discussion of their age impossible. However, considering we were only able to reach halfway to the core and still received ages of up to 125 years or more, it is possible some trees are contemporary with the historic events under study.

The target age for cottonwood cores was 170 years in order to locate one dating to the construction of Fraeb's trading post or defensive site. We recovered cores dating up to 125 years, and the average core was 111 years old. These ages for cottonwood trees should not be considered unusual as previous studies have recovered cores well over 100 years in age (Reher and Scheiber 1995:62–63). An examination of tree widths and core lengths shows the cores sampled only three-fourths to one-half of the actual tree radius, implying that had the center been reached, the coring would have returned older dates. Samples were limited by the extremely large size



FIGURE 5 Location of the dendrochronological study of the cottonwoods trees along the Little Snake River terraces in the study area (ESRI, i-cubed, USDA FSA, USGS, AEX, GeoEye, AeroGRID, Getmapping, and IGP 2013).

of the trees, the thickness of the bark in some cases was up to 7 cm, and the length of our coring tool.

Because true ages for nine of the 10 samples were not recovered, an analysis of individual tree ring widths was conducted to generate a regression curve capable of extrapolating ages for incomplete cores (see Diggins 2007; Koch et al. 2008; Sedmák et al. 2014 for studies on extrapolating tree ages from incomplete cores). This process is complicated because tree ring widths vary over time. Changes in precipitation, temperature, heat sums, and sunlight all lead to differential tree growth

TABLE 2
CORE SAMPLES TAKEN DURING THE 2011 DENDROCHRONOLOGICAL STUDY

Core number	Width	Core width	Tree age
A1	1.6	0.405	118
A2	0.8	0.37	100
A3	1.2	0.42	96
A4	1.3	0.422	111
A5	0.8	0.362	125
A6*	0.9	0.382	120+
A7	0.9	0.415	123
A8	1.5	0.402	112
A9	0.7	0.445	90
A10	1.0	0.325	114

*Sample A6 was damaged during removal, in part due to rotten wood on the interior of the tree. The date for this sample gives the minimum number of rings which could be confidently counted.

from year to year (Cook and Kairiukstis 1992:100). Ring width also changes over the life of the tree. Growth slows significantly after 20 years in most trees, although this process does not affect some trees until after 50 to 75 years (Fritts and Swetnam 1989:125; Reher and Scheiber 1995:64). Average ring widths change as growth slows, resulting in large widths on the interior of the core when tree growth accelerates and smaller rings on the exterior of the core when growth slows (Fritts and Swetnam 1989:125; Reher and Scheiber 1995:64).

To compensate for these factors, plots were generated to track changes in tree ring width associated with changes in tree growth over the course of the tree's life, and used to identify when tree growth slowed. Average ring widths from a tree's early growth cycle were compared to the missing portion of the core and used to estimate the number of missing rings from each sample.

The purpose of this exercise was not to generate an exact count of missing rings, but to provide estimated tree ages to aid in the location of tree stands dating to the nineteenth century. Extrapolated tree ages from our incomplete samples returned dates from approximately 100 to 200 years old. These values indicate there are terrace portions in the Little Snake Valley near Battle Creek likely contemporary with the Fraeb battlefield. The presence of terrace sections dating to the nineteenth century leaves open the possibility, providing that post depositional activities such as farming or erosion have not disturbed or removed part of the sediments, that physical evidence for the historic event may still exist in these locations.

These terrace portions may be even older than Fraeb's exploits due to a process called flood training (Everitt 1968:424; Lindsey et al. 1961). Flood training is a phenomenon where young cottonwoods less than 10 years old located on low aggrading terrace portions become swept over by high water or ice and eventually became buried. When this process does not kill the tree, new or existing branches or shoots coming off the now buried trunk will become visible on the surface. Such buried cottonwoods can give rise to one or an entire stand of trees. In these instances, a core retrieved from the above ground portion of the tree will accurately report the age of the tree segment after the flood training event, while the actual age of the original tree will be older (Everitt 1968:427). No trees were excavated during this study so this phenomenon was not observed, however, the process of flood training leaves open the possibility that terrace locations may date older than a complete core sample would indicate.

Older trees generally were located farther from the river banks than younger trees. A close inspection also shows older trees in aggrading zones sit farther from the river than they do in eroding zones. It appears cottonwood tree growth is in some way related to river hydrology, a conclusion supported by Everitt's (1968) study focusing on tree ages. This work shows that older stable portions of a floodplain or terrace contain older stands of trees. Aggrading portions have younger stands as there has been less time for tree growth. Erosional zones may have old trees adjacent to the river as once stable areas are slowly destroyed. This is not ground-breaking information, but it can prove useful. In shifting fluvial environments, it may not be clear when and where the river deposited or eroded terrace sediments over the course of the last couple of centuries. Changes in river migration or terrace

morphology can be determined by tracking changes in tree age across a terrace or floodplain (Everitt 1968).

Satellite imagery was used to identify portions of the terraces that were aggrading, and therefore younger, and stable terrace portions which are relatively older. This information was combined with dates retrieved from the tree core data to identify portions of the Little Snake River T1 terrace thought to be old enough to contain possible remains of Fraeb's trading post and battle. In doing this, the search field could be reduced and specific areas delineated for focusing future investigations.

Future plans

This article reported on research undertaken to develop a working hypothesis as to the location of the Fraeb battlefield and possible associated trading post site in an effort to guide and inform future research investigating the nature of nineteenth-century use of the Fraeb site. Currently, the Fraeb battlefield and trading post site have not been located, leaving a number of questions regarding Fraeb's last battle and trading post which still need to be addressed. First and foremost, where is the battle and/or trading post location? What is the association of the building or buildings with the battle? What types of structures existed at the Little Snake River location? Were they ephemeral features constructed to provide a defensive perimeter, a building, or set of buildings that were used by Fraeb and other trappers as they moved through the region to hunt or trade, or a fully functioning trading post? If a building or buildings existed when did the construction date to? Historical documentation fails to definitively answer these questions. Still, the construction of a trading post positioned away from the developing riverine transportation networks with the primary purpose of capturing Native American trade in the 1840s calls into question the role of Native American commerce during this period and bears further investigation beyond the scope of the current study.

The combination of historical accounts and archaeological investigations has allowed us to propose a general location in which the battle occurred. Should a structure associated with Henry Fraeb and this battle exist, be it a functioning trading post or an expediently constructed defensive perimeter, according to historical accounts it would be located in the vicinity of the battle. Pedestrian survey and a dendrochronological study identified specific terrace portions which may contain intact archaeological remains from the mid-nineteenth century. Future investigations should begin by focusing on four areas of research. First, unsurveyed terrace portions in the larger landscape should be subjected to controlled pedestrian transect survey. Second, similar survey techniques should be conducted on specific terrace portions identified in the dendrochronological study as possibly contemporary with the battle. Third, additional dendrochronological studies using a longer coring device should be conducted, with collection of a larger sample of trees. Finally, surface indications discovered during these additional investigations can be used to focus remote sensing studies. Remote sensing including, but not limited to, ground penetrating radar, magnetometry, and/or metal detecting may prove effective in locating subsurface features associated with the post or battle, such as

foundation stones, human burials, horse skeletal remains, or rifle pits. Geophysical work can be especially effective in continuing to narrow the search field when surface investigations fail to identify discrete archaeological deposits (Walker 1998). These investigations may identify the landscape on which the battle occurred and facilitate a more intensive search. Such efforts have been successfully used in Wyoming even on extensive landscapes (Walker and DeVore 2008).

Should these methods result in the identification of the Fraeb battlefield and/or trading post additional survey, testing, and excavation could be used to address larger issues related to the use of the site during the nineteenth century as well as the nature of the battle itself. First, firing and target positions, the type of weaponry and ammunition, along with spatial patterning can be used to reconstruct the battle. Second, horse bones, rifle pits, and tree stumps associated with a defense perimeter and/or corral or fort would allow inferences regarding use of the particular landscape defended by the trappers. Third, foundations, post molds, and the remains of other building materials can aid in the identification of structural components to the site and in the reconstruction of the site layout. And fourth artifact types and artifact densities can provide insight into the manner in which this site was used in the early to mid-decades of the nineteenth century by Euroamerican traders in trappers in the West. This information in turn will allow for broader discussions focusing on the re-examination of economic models relating to the fur trade in the Rocky Mountain and High Plain regions of the American West and on how this small, remote site was integrated into larger, regional Native American and Euroamerican nineteenth-century economic and subsistence models.

Conclusion

Historic documents, including maps, often provide the general location of a site or an event, but these lines of evidence can be notoriously vague or only partially accurate. The researcher must determine the validity and accuracy of the historical information and decide on a suitable manner of field testing. While historical sources may reduce a search area to a square mile or even a few acres, a higher level of resolution is required before initiating test excavations. Narrowing the search parameters further can be handled in several ways with varying results, including a surface survey, correlating historic maps to modern topography, examining aerial photographs and satellite images for surface anomalies, or employing remote sensing techniques to search for subsurface anomalies (Galloway 2006; Walker 2009; Wood 1993). The search for Fraeb's battle provided yet another means of identifying locations which may contain specific historical evidence.

Historical documents failed to provide an exact site location of Fraeb's trading post and battle site. The evaluation of documentation suggests there may never have been a trading post, just a quickly constructed defense perimeter. Landmark references in historical documents allowed us to reduce the search area to a two square-mile section of the Little Snake River Valley. Dendrochronological investigations and a brief pedestrian survey were then undertaken to delineate an even smaller search area. The dendrochronological analysis revealed T1 terrace portions in the survey

area likely dating to the mid-nineteenth century and contemporary with the Fraeb battle. These locations will be used to focus future archaeological investigations.

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