

Fort Chambers Cultural Resource Survey Preliminary Results

OSMP Staff Presentation

Fort Chambers/Poor Farm Management Plan Project Background

Fort Chambers / Poor Farm Management Plan



Contact

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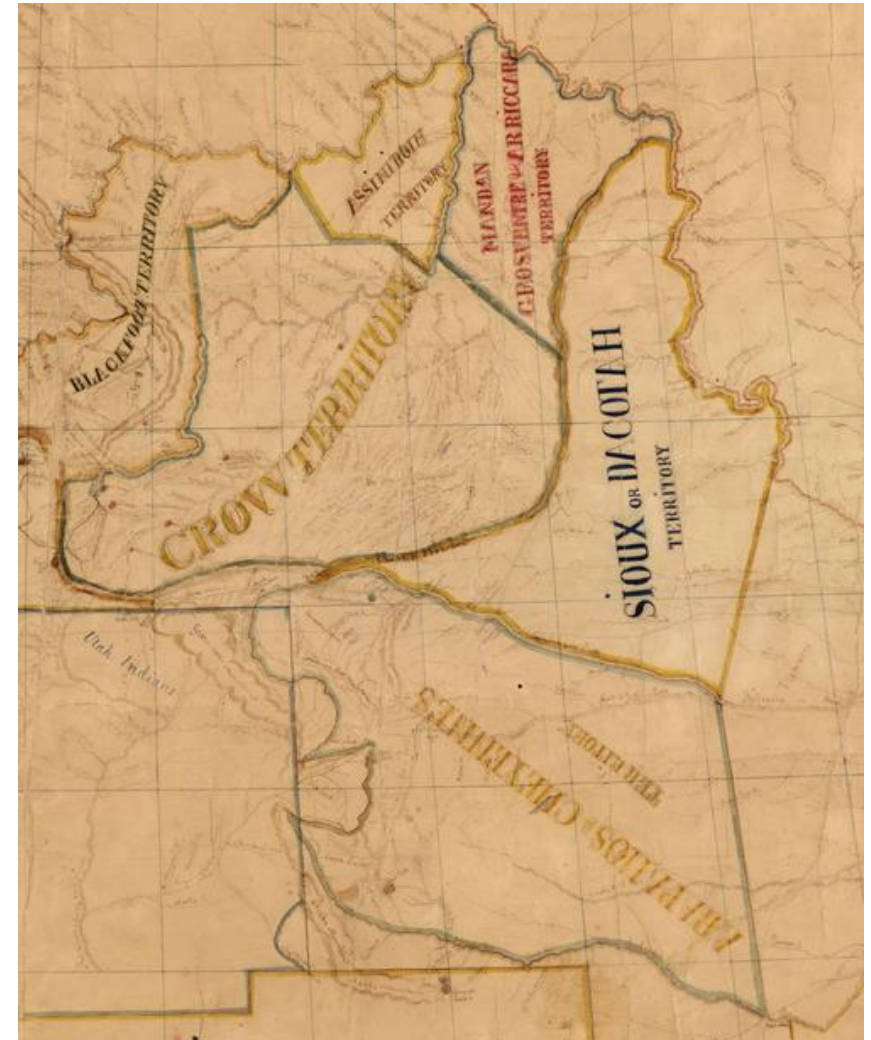
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[Fort Chambers / Poor
Farm Management Plan
Project Webpage](#)

Fort Chambers Historical Context

- 1851 Treaty of Fort Laramie
- Establishment of permanent Euro-American Communities
 - Denver (July 1858)
 - Boulder (late 1858-early 1859)
- 1861 Treaty of Fort Wise
- Reports of conflicts across the plains during early 1860s encourage panic in settler communities across the Colorado Territory
- Massacres of Cheyenne and Arapaho Peoples in Colorado
 - Buffalo Springs (October 9, 1864)
 - Sand Creek (November 29, 1864)



Why was Fort Chambers Built?

- Reaction to the June 1864 Hungate murders
- Fears that a confederation of Tribes had united to destroy Front Range settlements (“Uprising”)
- Role of Territorial Governor Evans

COLORADO SUPERINTENDENCY.

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north upon the plains, which I had the honor to transmit to you, proved to have been correct; and the depredations and murders by these tribes commenced early in the spring, as set forth in the statement of Mr. North, then forwarded, and a copy of which, marked A, is herewith transmitted.

The papers referred to, having been by you forwarded to the War Department, through the honorable Secretary of the Interior, I also addressed that department a letter asking for protection, a copy of which, marked B, is herewith transmitted.

It is to be regretted that the exigencies of the war against the great rebellion were such as to not only prevent the strengthening of the military forces requested, but also to require the still further withdrawal of troops in the spring, for it is believed that this encouraged the hopes of conquest that had been inspired among the Indians, and emboldened them. As early as my letter of July 15, 1863, in which the fact is stated that the Sioux Indians were negotiating for a war alliance, and from my numerous references to the fact, you are aware that it was feared that the Sioux Indians, who had been driven unconquered from Minnesota into the country on the northern plains, which is inhabited by the numerous bands of that great family of warlike savages, had visited the other tribes of the plains for the purpose of inducing them to join the war alliance with those bands. The fact has been corroborated the past year through numerous channels.

The disaffection of the Cheyenne and a part of the Arapahoe Indians, which had grown out of their misunderstanding of the treaty of Fort Wise, (1861,) and the fact that their numerous depredations upon emigrant trains, and the overland stage stations, committed at intervals, through a series of years, had received but little if any punishment, prepared them to give ear to the counsel of these emissaries, who encouraged them to hope that, by a concerted hostility of the various tribes, the whites might be driven from the country.

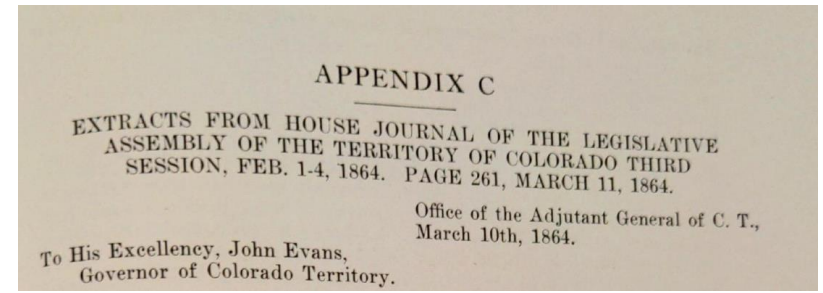
COLORADO SUPERINTENDENCY.

No. 91.

COLORADO SUPERINTENDENCY OF INDIAN AFFAIRS,
Denver, C. T., October 15, 1864.

Who Built Fort Chambers?

- Local Militia
 - Boulder County Mounted Rifles
 - Evans Guard
- Civilians
 - Lemmuel McIntosh
 - Reverend Charles M. Campbell
 - Judge Peter Housel
 - “among others”
- Company D, 3rd Colorado Cavalry



The “Boulder County Mounted Rifles,” organized October 24th, 1862, and officered as follows:

Captain, T. A. Aikin.
1st Lieutenant, Thos. J. Jones.
2nd Lieutenant, G. W. Chambers.
3rd Lieutenant, W. M. Barrey.
Ensign, L. C. Wellman.

(445)

Ensign, W. McMillan.

The “Evans Guards,” organized June 20th, 1863, and officered as follows, to-wit:

Captain, Andrew Jackson Pennock.
1st Lieutenant, Alfred Cushman.
2nd Lieutenant, Lewis W. Dickson.
3rd Lieutenant, Robert Woodward.

The above companies have been furnished with Garibaldi and Mississippi rifles and accoutrements, sufficient to fully equip them for active service.

The arms and accoutrements have been furnished by the War Department and distributed by this Department on the order of His Excellency, John Evans, Commander-in-Chief of the militia, upon bonds filed for their safe keeping and proper use.

All of which is most respectfully submitted.

D. H. Moffatt, Jr.,
Adjutant General.

When Was Fort Chambers Built?

to come to the fort for safety.

Fort Chambers, as it was named, was built of sod blocks, 24 by 24 inches. Walls were two feet thick, and the structure was 100 by 150 feet in size and made similar to other forts in the Territory.

A frame school house was built on top of Burlington hill, which has been replaced by a modern brick structure. This is the only landmark bearing the name of the ghost town that once was teeming with frontier activity.

Thrilling scenes were enacted in this place in that early day.

Block 1942

The new fort was named Fort Junction because it stood at the junction of the Boulder and St. Vrain rivers. A few weeks after it had been completed, important news was brought by Elbridge Gerry, a grandson of a signer of the Declaration of Independence who bore the same name. Gerry had married the sister of Chief Red Cloud and learned from her relatives who were visiting them on the Platte near Crow Creek of the alliance of all Plains tribesmen and of the big attack which was to occur shortly.

Block 1939

When Was Fort Chambers Built?

- Construction likely begins sometime between June 13th and 29th 1864.
- Intention to complete the fort by July 4th, but fort is still under construction on August 19.
- Construction assumed to be complete by August 21, 1864.

A Sensible Plan.

We learn that the Militia of Boulder County, are taking hold of the matter of home defense in a most earnest and praiseworthy manner. Not content with organizing and drilling regularly, and holding themselves in readiness to march against the red-skins at a moment's notice, they are building a Fort about four miles below Boulder City. It is to be 100 x 250 feet, with a block house in the center. The Fort proper will give room for about two hundred fighting men, and the block house sufficient room for their families.

An hundred men and teams are hard to work, and it will be completed by Saturday night. Unless the militia are called away on urgent business, a grand Fourth of July celebration will be held there.

Other exposed localities should go and do likewise forthwith.

RMN 6/29/1864

How Was Fort Chambers Used?

- Refuge for panicked settlers on August 21, 1864, and potentially beyond
- Storage and supply for militia and Company D
- Training location for militia and Company D
- Abandonment by Company D on September 16, 1864

Uses: Refuge

Willard 1930

150

THE COLORADO MAGAZINE

placed yourselves in that position where your presence materially aided in preventing one of the most extensive and horrible Indian massacres ever planned by brutal malice and savage barbarity.

“On the second night, after your march from Denver, I received the most reliable information through friendly Indians coming directly from their camp, near the head of Beaver Creek, of the presence there of from 800 to 1,000 warriors of the Confederate tribes of Sioux, Chyennes, Arapahoes, Kiowa, Camanche and Apache Indians. Also, that they had agreed to divide into four parties for the purpose of a general attack upon the settlements about equidistant from their general rendezvous, extending from a point on the Platte River below the Junction, for about 100 miles to Fort Lupton, a short distance below Denver—also along Cherry Creek to its source, about fifty miles; also along the Fontaine qui Bouille and the Arkansas about 100 miles. Their plan was to divide into four parties, about 300 to go toward the Junction, 100 toward Fort Lupton, 250 to Cherry Creek and about 300 to Fontaine qui Bouille and the Arkansas River. These parties upon approaching the points designated were to divide into small bands and spread along those isolated settlements, and, at the dread hour of the night, to murder the inhabitants and plunder their houses and steal their stock. And, but for the timely warning and vigilant preparation for defense, there is not a doubt but Colorado would have been the scene of the most horrible Indian massacre that has occurred in the history of any country in the world.

“At midnight I sent a telegraphic dispatch to the Junction, directing that the settlements should be alarmed, and notifying them of your presence in the neighborhood. A dispatch, by messenger, was sent to Captain S. E. Browne, then in command of

Block 1939

Plains tribesmen and of the big attack which was to occur shortly.

Gerry, like Paul Revere of the Revolutionary days, lost no time. He quietly slipped away on his horse to notify the white settlers of the coming warfare. At the Platteville stage station he sent William and George Cole up to Fort Junction to warn the pioneer settlers. People gathered their valuables and keepsakes, while others buried their treasures, and taking food, a few clothes and bedding, started for the fort in their vicinity.

The rumble of ox-drawn covered wagons containing the

Uses: Refuge

Joseph Wolff article (BDC 3/11/1908)

terrified pioneers were safe from slaughter. And to this they came whenever word was sent out from Denver that the Indians were approaching. It was, indeed, a "City of Refuge" for us.

Ernest Pease autobiography (Pease 1933)

Indians would never find it. The life in the fort was exciting. Families from all around had gathered there. There seemed to be so many people there and all living in such close quarters. There was a band that played wonderful music, but the whole thing left only a hazy impression - nothing stands out distinct. It seems that we stayed there for some time, I have no idea how long, and also that for a while we went home in the daytime and came back at night. I recall a sense of fear on going to the fort one night after dark as I lay in the bottom

"So far as can be learned from the telegraph offices between here and the Missouri, there have been no depredations committed by Indians, nor indeed many [Slur] seen for several days past"
(RMN 8/22/1864)

Interview with Ellen Coffin-Pennock (Brown 1953)

in our hands to eat as every dish was carried out in the sunflowers.

It was sundown when we drove away over the bluff to the old Gunbarrel Road on our way to the fort. The corral was full of un milked cows, and we questioned if we'd ever see the little home again. We reached the Fort about midnight, and crowded in with others. The inside was filled with women and children, while soldiers and our men were outside. When we arrived there, we were told that messengers had been sent to tell us *not to come* as the Indians had learned that the settlers had been warned and they had consequently given up their plan for the present. The messengers were Morse Coffin and Lorenzo Dwight, both soldiers in the Indian Service. They had come another way from the one we had gone and so had missed us. When they arrived at Mr. Kinney's and our place and found the corrals full of un milked, lowing cows, they thought they'd milk them but could find neither pail or pans, so all they could do was milk in the swill pails and empty the milk on the ground.

The next morning we went to Boulder for our breakfast, and

Henry Blake diary transcript (Ellison 1988)

August 20

Lofed around Boulder city. Ware meating in the eavning, and a company of home gards raised / got acquainted with a Miss Mollie Jay, a butiful curly haired Lady

August 21

There was quite a fright in the eavning, all hands went to Ft. Chambers, and got our guns and I returned to Boulder city 1/2 past 1 at Knight

August 22

went to Boulder and asisted in distributing clothing for the Solgers

Uses: Storage and Supply

ORDNANCE ISSUES TO 3RD COLORADO CAVALRY

Special Order	Date	Ordnance		Ammunition		Caliber	Issued To	Company
		Qty.	Description	Qty	Description			
70	8/20/1864	98	Austrian Rifles	4000	Cartridges	.54	Hal Sayre	B
70	8/20/1864			2000	Cartridges	.36	Hal Sayre	B
70	8/20/1864			1000	Cartridges	.44	Hal Sayre	B
81	9/3/1864	100	"Stands of Arms and Equipments"	8000	Cartridges	?	T. Cree	A
82	9/5/1864	80	Harpers Ferry Muskets	1000	Cartridges	.69	A. Shock	A
84	9/7/1864	84	Harpers Ferry Rifles & Equipments	4000	Cartridges	.69	J. Phillips	L
84	9/7/1864	50	Harpers Ferry Rifled Muskets, etc.	4000	Cartridges	.69	CPT Worrall	Rec. Off.
84	9/7/1864	80	Austrian Rifles Cal. .54 & Equip.	4000	Ball Cartridges	.54	E. Chase	F
84	9/7/1864			1000	Navy Cartridges	.36	E. Chase	F
84	9/7/1864	88	Austrian Rifles	4000	Cartridges	.54	Hal Sayre	E
84	9/7/1864	6	Model U. S. 1840 Rifles	1000	Ball Cartridges	.54	D. Nichols	D
89	9/15/1864	91	Rifles and Equipments	4000	Cartridges	.54	W. Morgan	H
89	9/15/1864	500	Friction Tubes	2000	Cartridges	.44	W. Morgan	H
89	9/15/1864			4000	Cartridges	.36	W. Morgan	H
89	9/15/1864	100	Rifles & Ammunition Therefore				O. Baxter	G
90	9/16/1864			2000	Rifle Ball Cartridges	.54	Hal Sayre	?
90	9/16/1864			1000	Sharps Ball Cartridge	.58	Hal Sayre	?
90	9/16/1864	30	"Revolvers and Equipments"				Lt. Autabees	H
90	9/16/1864			1000	Cartridges	.44	D. Nichols	D
90	9/16/1864			1000	Cartridges	.36	D. Nichols	D
90	9/16/1864			1000	Cartridges	.36	CPT Wanless	Prov. Mar.
90	9/21/1864	8	Whitney Revolvers & Equipments	200	Cartridges	.36	I. McCannon	I

Uses: Storage and Supply



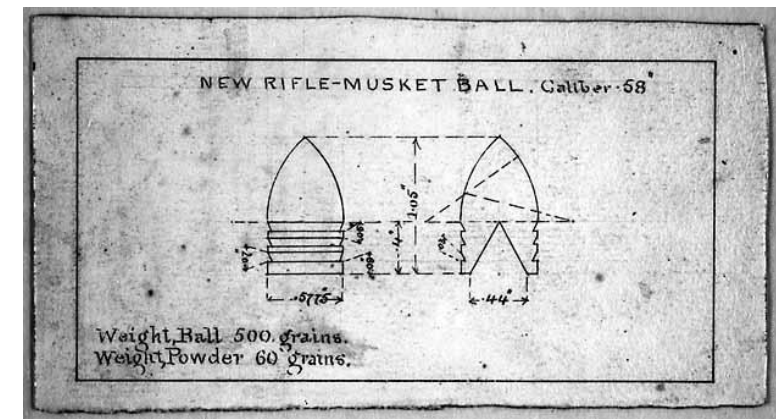
“Austrian”/“Garibaldi” Rifle: Variety of calibers, primarily .69 & .71 including .54



Model 1841 “Mississippi rifle”: .54 & .58 calibers



Springfield Model 1840 flintlock musket: .69 caliber



(Ellison 1988)

Mollie Jay, a beautiful curly haired Lady
 August 21
 There was quite a fright in the evening, all hands went to Ft. Chambers, and got our guns and I returned to Boulder city 1/2 past 1 at Knight
 August 22

HENRY BLAKE DIARY

1864

church. had a nice time
 September 5
 Remained at the Ft
 September 6
 Remained at the Fort
 September 7
 Remained at the Fort
 September 8
 went to Boulder and saw Dr Warrell and he come to the Fort with me and maid an anty state speach
 September 9
 Remained at the Fort as usual
 September 10
 Remained at the Fort and went in the evening to Boulder and attended a convention got home about 10 oclock in the morning
 September 11
 had a dress parade and went to Denver with Lut. Pennock to Knight got there at 4 Oclock in the morning
 September 12
 arived at Denver at 4 Oclock this morning to attend to getting armes &c for company / got Back to the Ft at 5 PM this evening had a political speach at Knight

Uses: Militia and Company D Training

Pease 1933

In August of 1864 the Third Colorado Volunteer Cavalry was mustered into service and I remember my Uncle Henry Foster leaving home in full uniform for the service, riding a large fine looking horse, and I also remember seeing the soldiers practicing their maneuvers at Valmont. A little after this a fort was made of sod, adobe fashion, just beyond Valmont in the fields of our friends, the Chambers. I remember the preparations for leaving home for the fort.

O.L. Baskin and Co. 1880

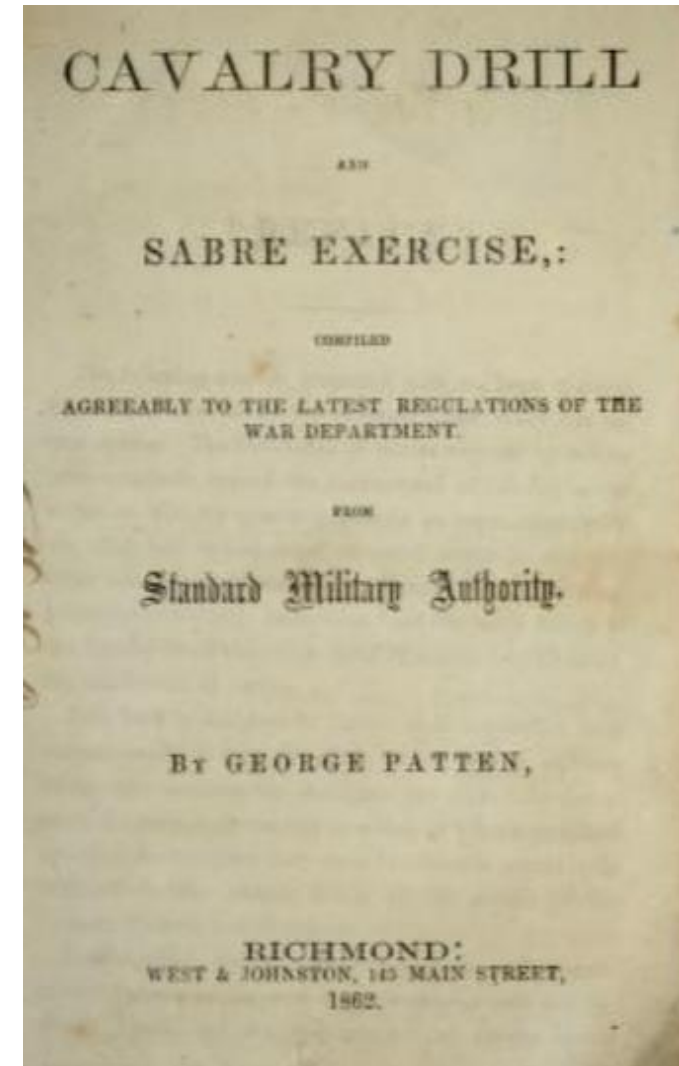
ived a little way out. He calmed their fears, and sent them home. Mr. Pound says that Mrs. Harden showed more sense than the men.

But actual savage murders left no doubt of real peril to the settlers, and the people along Boulder Creek united to erect an adobe fortification a little way below Valmont, called Fort Chambers, being on the place of G. W. Chambers. This was made the headquarters of recruits. Col. Chivington having commissioned Capt. David H. Nichols, of Boulder, to recruit a company of one hundred men into the service of the United States, for opening

Prindle. Of these, Robert McFarland and Henry Foster were killed in Indian fights.

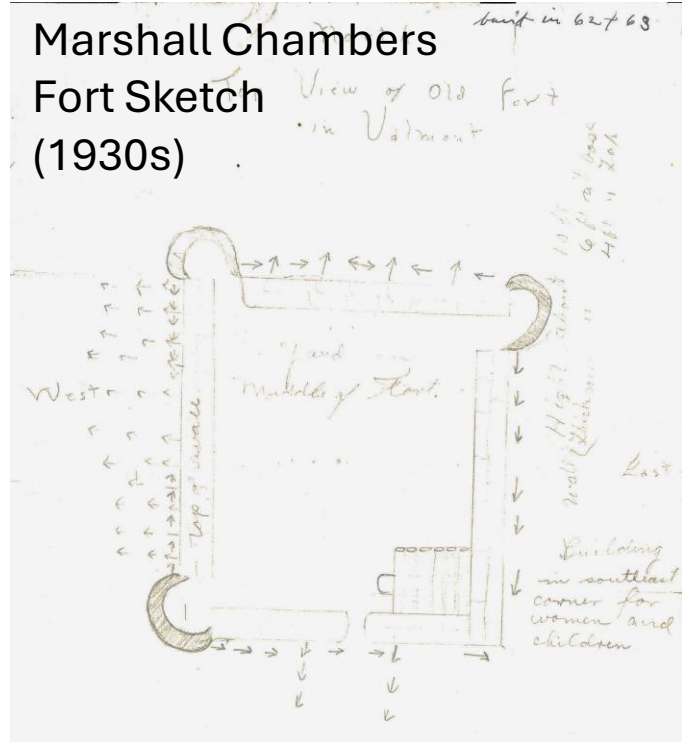
This company drilled at Fort Chambers until the 16th of the next month (September), when they were marched, well mounted, to Valley Station, fifty miles above Julesburg. Here they met Capt. C. M. Tyler, coming up from below, in command of an independent company, raised at Black Hawk.

On the 9th of October, Big Wolf, an Indian chief, was seen near the Wisconsin Rancho, five miles above, looking for a place to cross the river with his band and their stolen stock and other plunder, going north to winter and



What Was Fort Chambers and How Was it Built?

Marshall Chambers
Fort Sketch
(1930s)



Block 1942

to come to the fort for safety.

Fort Chambers, as it was named, was built of sod blocks, 24 by 24 inches. Walls were two feet thick, and the structure was 100 by 150 feet in size and made similar to other forts in the Territory.

A frame school house was built on top of Burlington hill, which has been replaced by a modern brick structure. This is the

BDC 6/8/1932

Mr. Chambers' sketch shows the fort to have been 10 feet high, six feet thick at the base and four feet high at the top. It had but a single entrance, that in the south. There were ramparts, semi-circular in form in the north corners of the fort and another in the southwest. In the southeast corner was a shed for shelter for the women and children.

BDC 3/11/1908

Forts for the protection of the pioneers were erected in every part of Colorado that had settlers. We had one at Valmont, on the land now owned by the county as the poor farm. It was on low land, covered with very tenacious sod. This sod was turned over by a very sharp plow. It was then cut into lengths about 18 inches. Of these sods wall were built three feet thick. At the corners were projections with port holes, so that no Indian could safely approach. In this the

A Sensible Plan.

RMN 6/29/1864

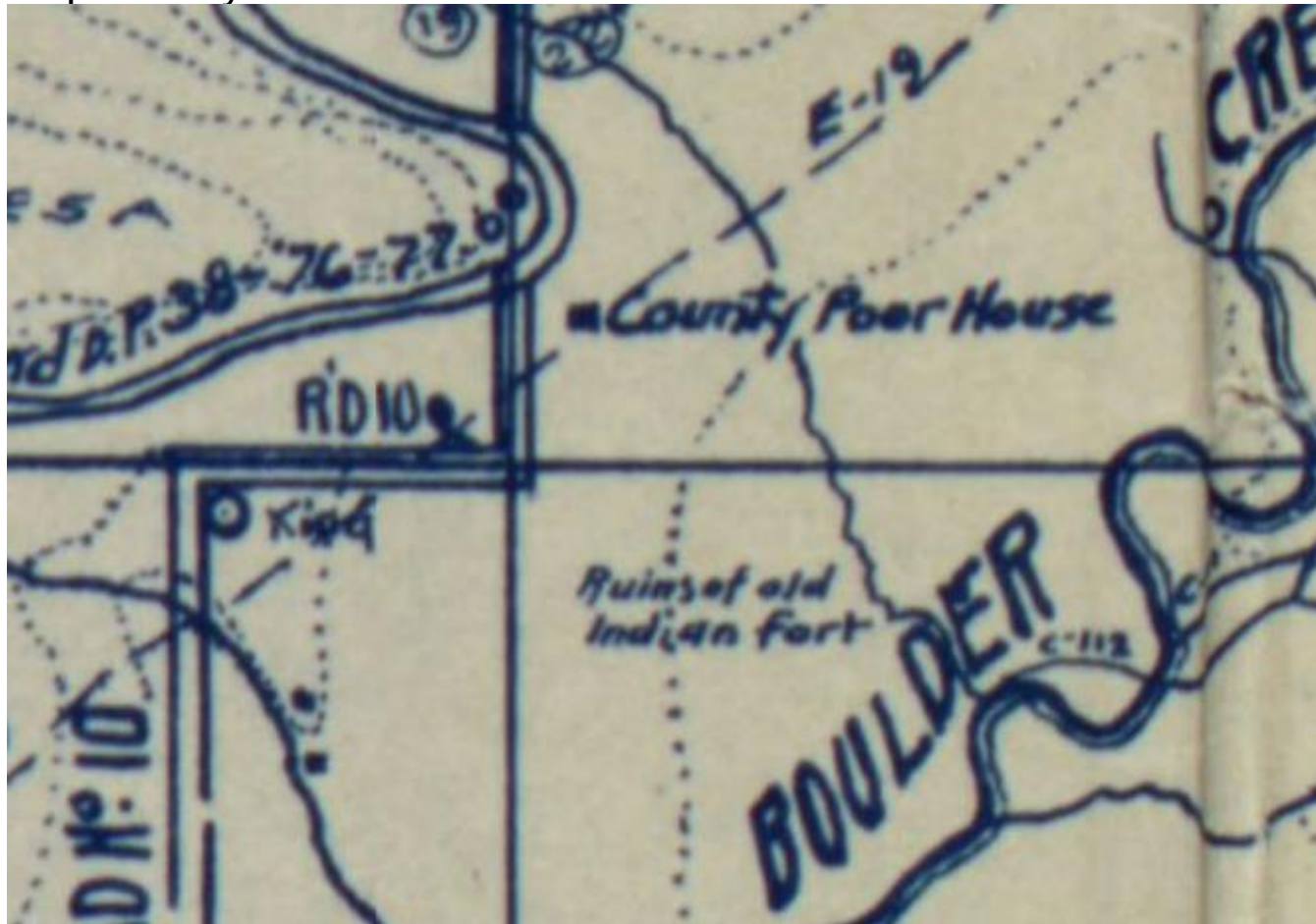
We learn that the Militia of Boulder County, are taking hold of the matter of home defense in a most earnest and praiseworthy manner. Not content with organizing and drilling regularly, and holding themselves in readiness to march against the red-skins at a moment's notice, they are building a Fort about four miles below Boulder City. It is to be 100 x 250 feet, with a block house in the center. The Fort proper will give room for about two hundred fighting men, and the block house sufficient room for their families.

An hundred men and teams are hard to work, and it will be completed by Saturday night. Unless the militia are called away on urgent business, a grand Fourth of July celebration will be held there.

Other exposed localities should go and do likewise forthwith.

Where Was Fort Chambers?

Drumm's wall map of Boulder County, Colorado. Carnegie Library:
Map County 1914-2



Monument Marking Site Of Fort Chambers ~~Moved~~ Erected On Hummel Farm

A monument to mark the location of Fort Chambers, which was erected by Boulder Valley farmers in the early sixties as a place of refuge in case of an Indian attack, has been erected on the Paul Hummel farm, northeast of Valmont.

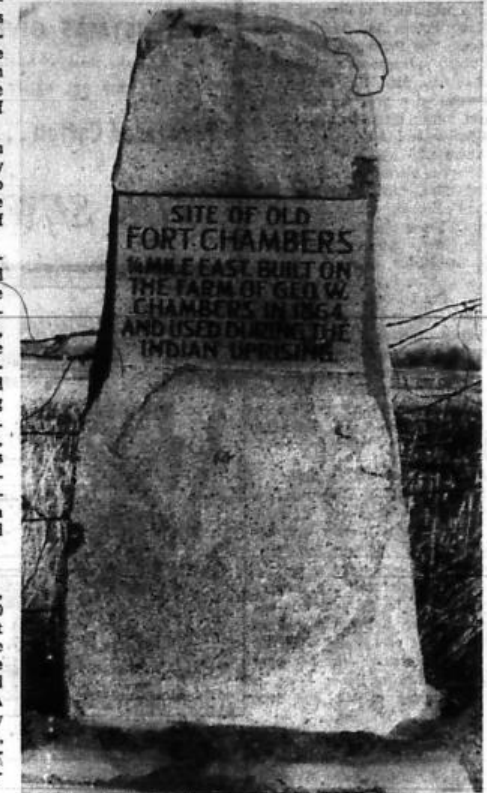
Hummel owns the farm which was originally homesteaded by George W. Chambers, a 59er to Gold Hill, who donated the site and did much of the work of erecting the fortification.

The stone on which the inscription has been placed was moved to the Hummel farm from the Valmont Buttes by H. N. McConnell, of Boulder; E. D. Wells, of Lafayette, with the assistance of other historically-minded citizens. Expense of moving and erecting the stone and providing its marker was paid by Mrs. Arthur G. (Millie) Gallagher, whose home for many years has been at 11621 Lindbergh, Lynwood, Calif. She is a granddaughter of George W. Chambers, a daughter of James Melville and Lizzie Cary Chambers.

Dedication Planned

The inscription on the stone, which weighs an estimated 1,000 pounds, reads "Site of Old Fort Chambers, one quarter of a mile east. Built on the farm of George W. Chambers in 1864, and used during the Indian uprising." A dedication is being planned by the Boulder Historical Society, which Mrs. Gallagher and her husband, the late Arthur Gallagher, have supported.

It was at Fort Chambers that 100 men who answered the call of Col. F. M. Chivington were mustered into service on Aug. 28, 1864.



IN NEW LOCATION — The monument marking the site of Fort Chambers, built during an Indian uprising in 1864, has been moved to the Paul Hummel farm near Valmont where the fort stood. A dedication is being planned.

Letter about
marker Filed
with 5BL.577
Site form

We are reporting back to the donor as to what lettering they wish to put on. The inscription will probably be brief which will hold the cost down.

Site is one fourth mile from the road and the property owner informed me that the D.A.R. wanted marker placed at the actual spot which is not too definite. This now is in middle of an alfalfa field with no access road for visitors even if they cared to detour to a site with only sentimental interest. The Land Owner is willing to co-operate if it is placed on road where it can be seen and read. The elevation of road is the same and a clear view of the site.

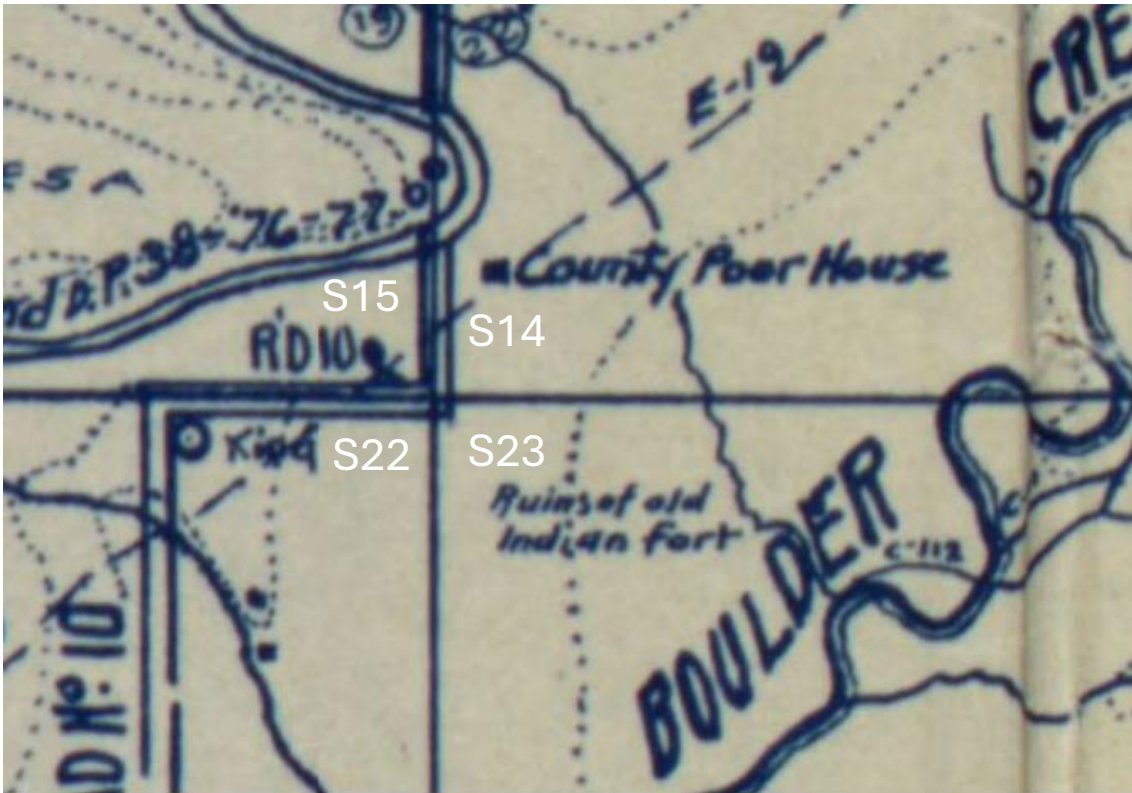
Sorry to bother you again but we will be waiting for your reply.

Yours sincerely,

H.N. McConnell, V.P.
BOULDER HISTORICAL SOCIETY

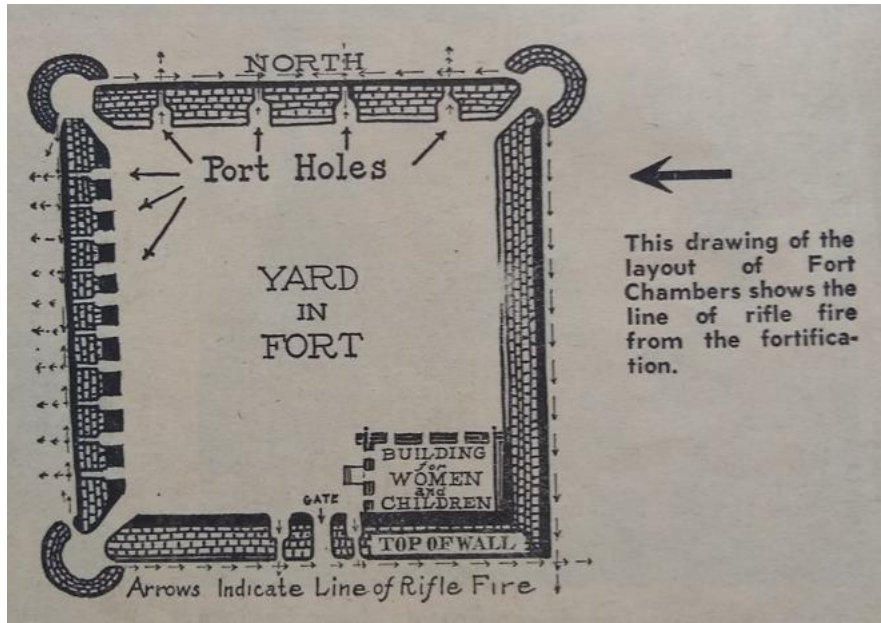
Where Was Fort Chambers?

Map County 1914-2



Where Was Fort Chambers?

BDC Focus Magazine insert 11/26/1967



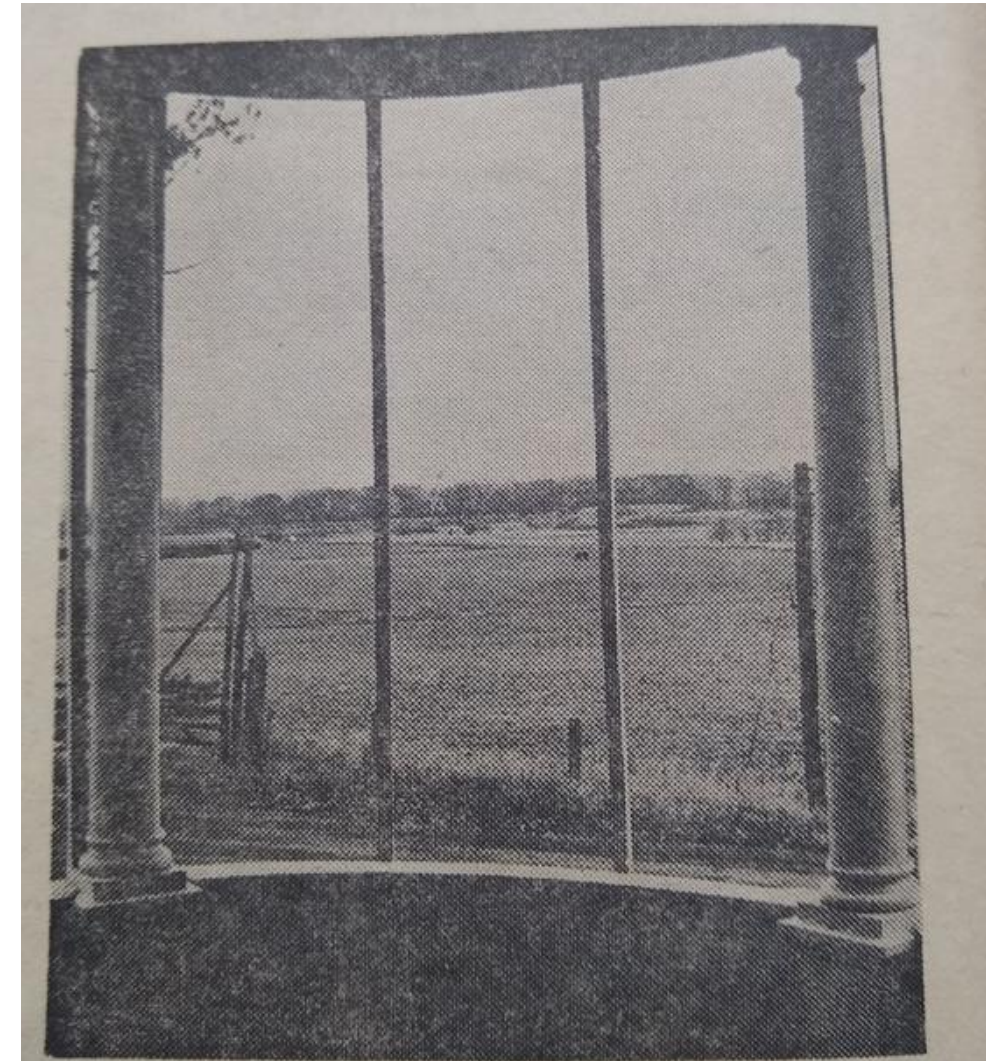
burg.

Paul Hummel, who purchased the "Chambers" land in the spring of 1920, recalls that in those days the walls of the fort were clearly discernable. Mr. Hummel uses that portion of land on which the fort had stood as a hay field.

Referring to previous owners of the land, Hummel says, "I must have plowed deeper than the others had. One day I hooked onto a couple of pieces of metal, and when I pulled them up I could tell they were gate posts from the old fort. I thought other people might be interested in seeing them so I gave them to the Pioneer Museum." (Unfortunately, these items were destroyed in a fire a number of years ago.)

Throughout the 47 years he has lived on his farm, Hummel has found other interesting items at the site of the fort, such as oxen shoes and a blackened 1857 penny.

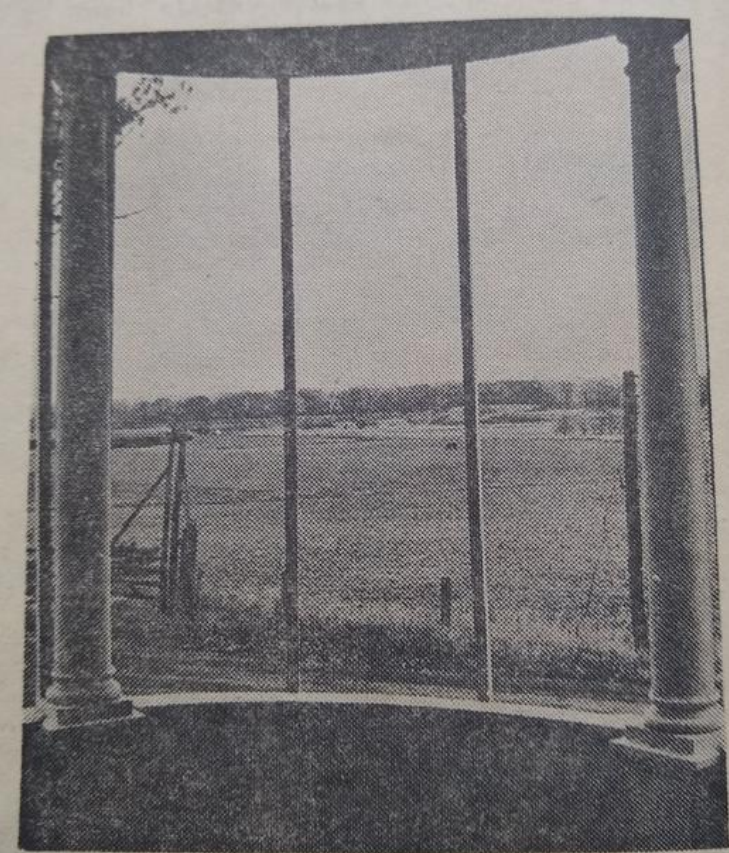
HAVING almost as much



This hay field, seen from the cupola porch, is where the original Fort Chambers was located. Hummel recalls the walls of the fort were clearly discernable in 1920.

Where Was Fort Chambers?

BDC Focus Magazine insert 11/26/1967



This hay field, seen from the cupola porch, is where the original Fort Chambers was located. Hummel recalls the walls of the fort were clearly discernable in 1920.

1966 aerial image (EarthExplorer Entity ID: AR1VBPD00010154)

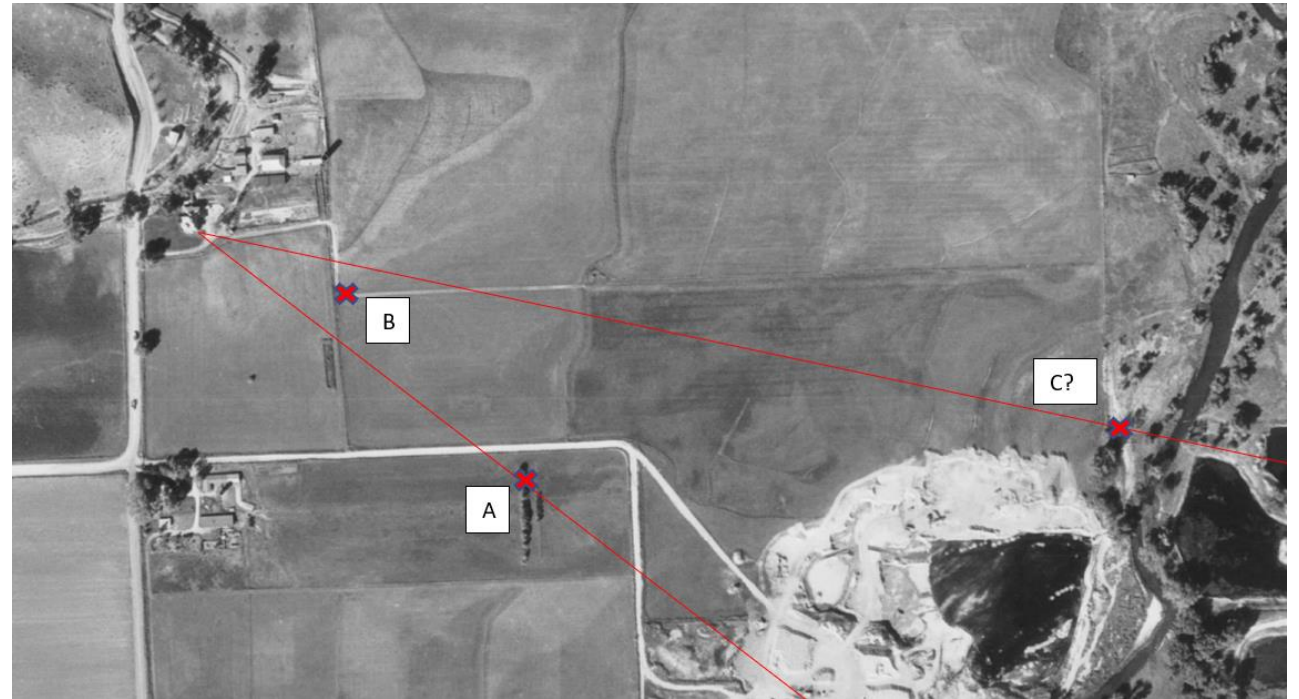


Where Was Fort Chambers?

BDC Focus 11/26/1967



1966 aerial

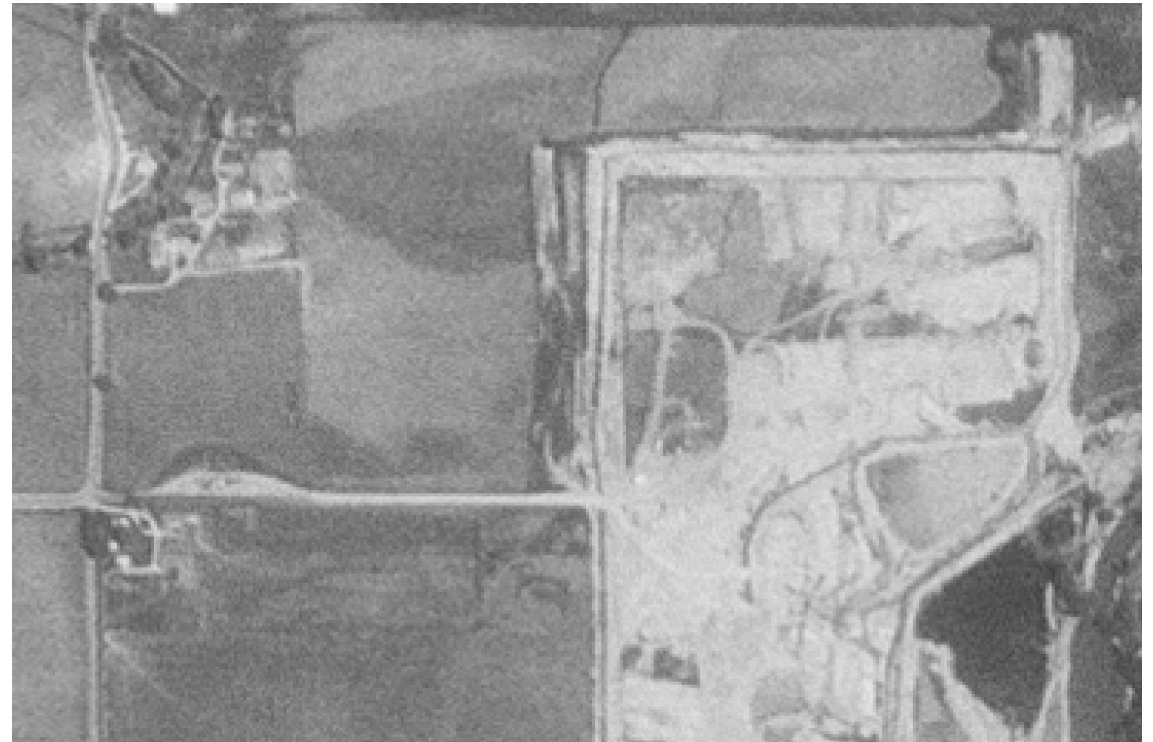


Where Was Fort Chambers?

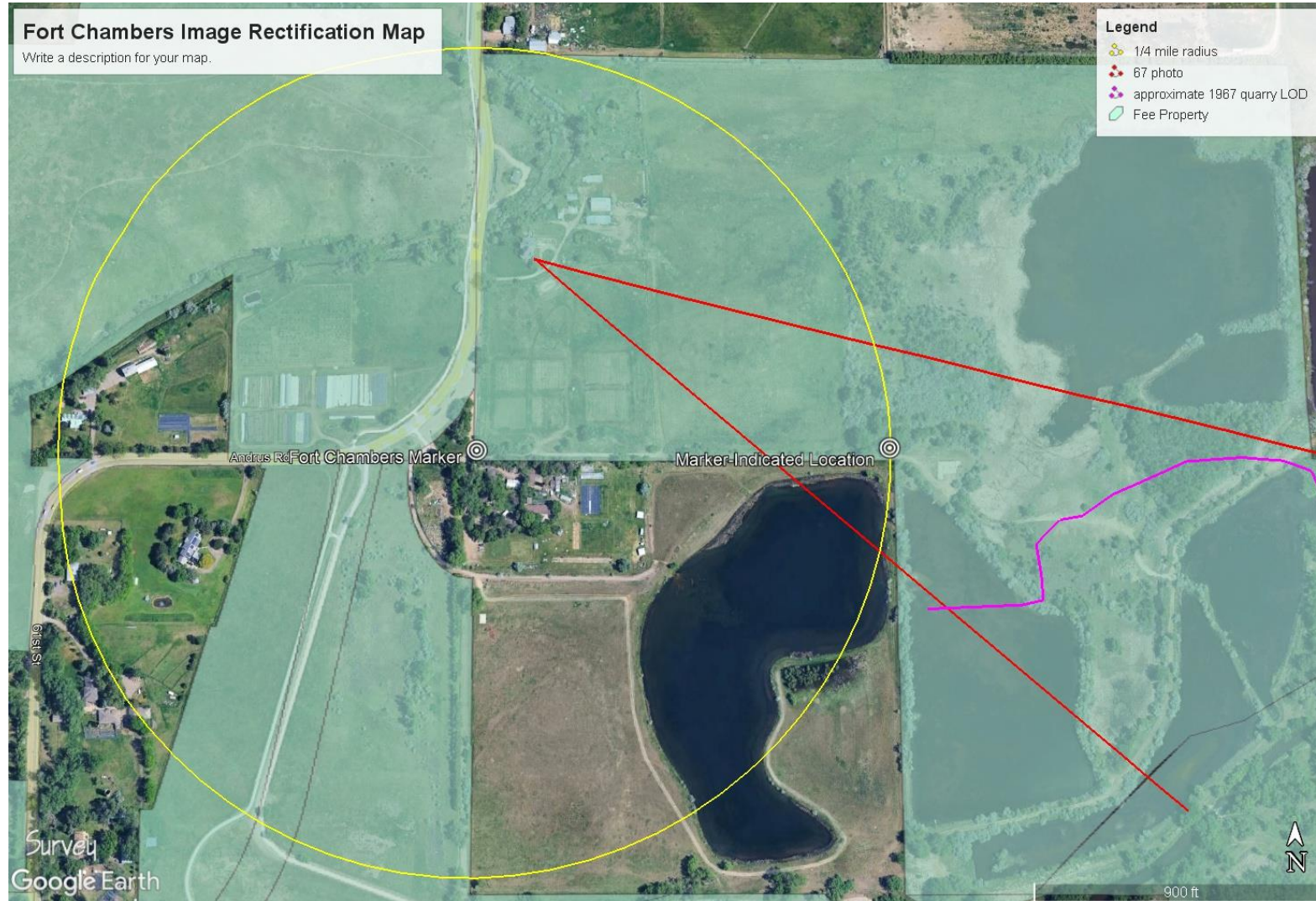
1966 aerial



1970 aerial (EarthExplorer Entity ID: AR6128D00204709)



Where Was Fort Chambers?



Where Was Fort Chambers?



Where Was Fort Chambers?

1937 Aerial (Colorado Aerial Photo Service AIM-49)



Bare Earth 2-foot resolution (2013 May)



Class III Cultural Resource Survey: Pedestrian Survey 2021-2023

- 45.6 acres undisturbed by gravel mining
- 15-meter (50-foot) spaced transects on Fort Chambers/Poor Farm parcel 2021-2022
- Architectural survey of farmstead core conducted 2022-2023
- Unstructured survey of adjacent OSMP Andrus parcel and privately owned 63rd Street Farm vegetable plots
- No features or artifacts potentially associated with the fort were located.



Class III Cultural Resource Survey: Magnetometry Survey 2021

- Survey conducted under contract with Dr. Larry Conyers (University of Denver) and Chet Walker (Archaeo-Geophysical Associates, LLC)
- Survey measures differences in earth's magnetic field that are altered by subsurface features
- Dense organic material (i.e. sod) is more magnetic relative to surrounding soils should be visible in data

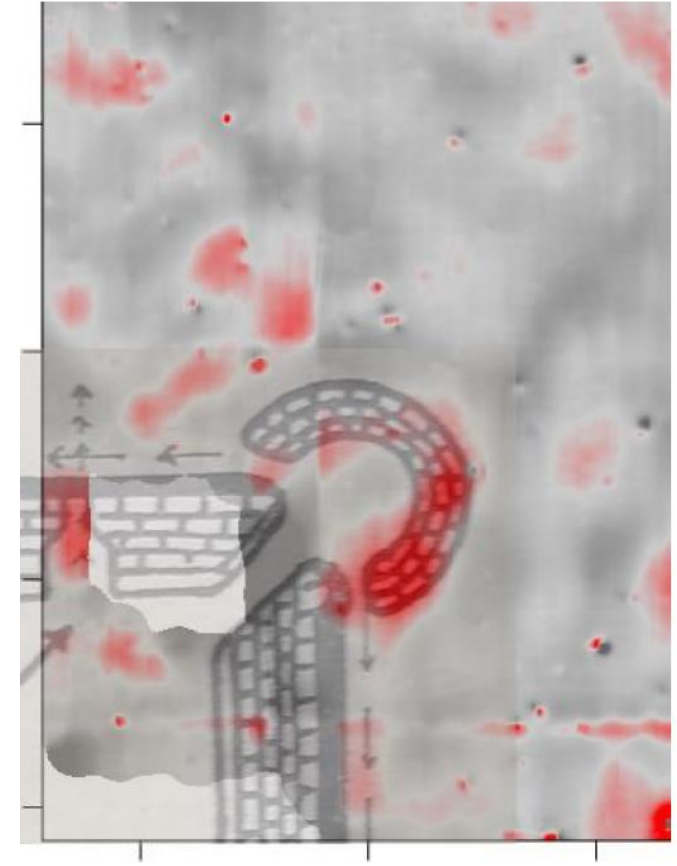
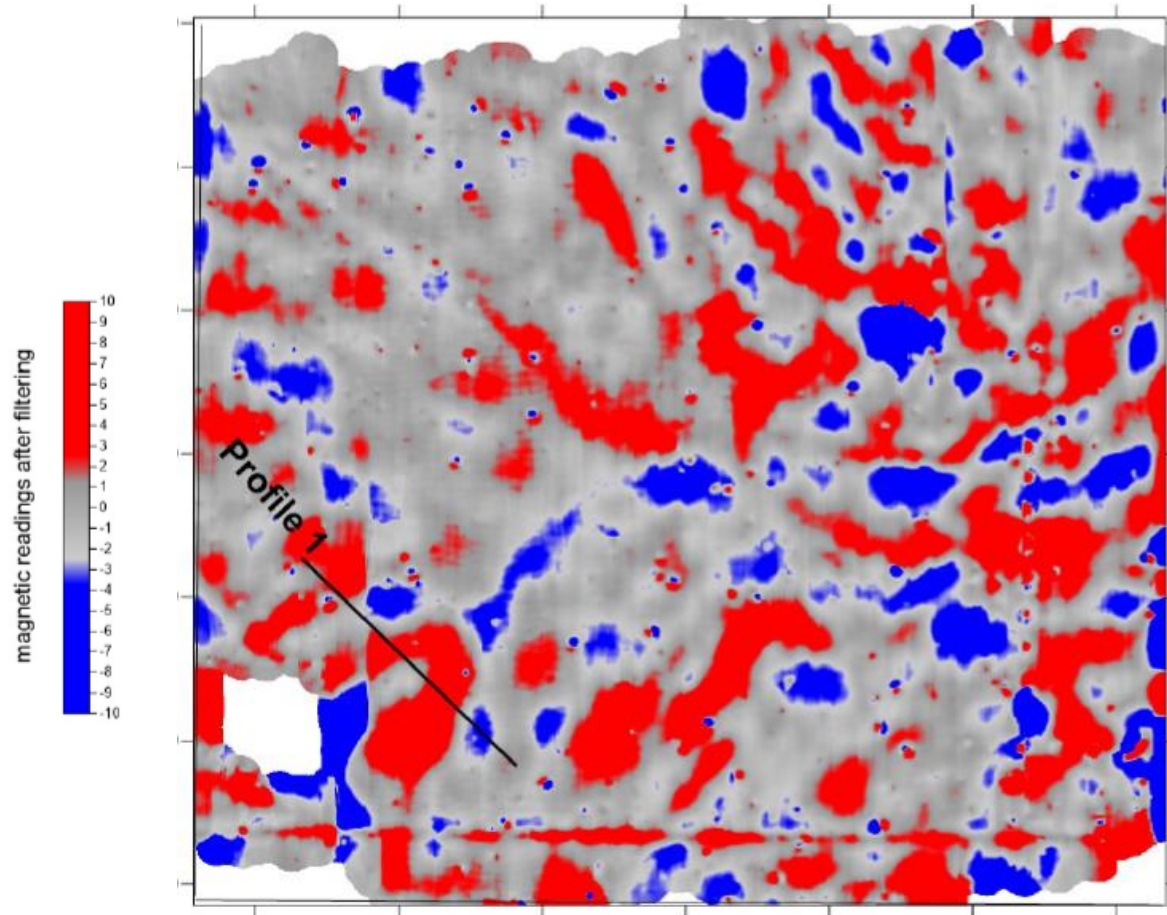


Class III Cultural Resource Survey: Magnetometry Survey 2021

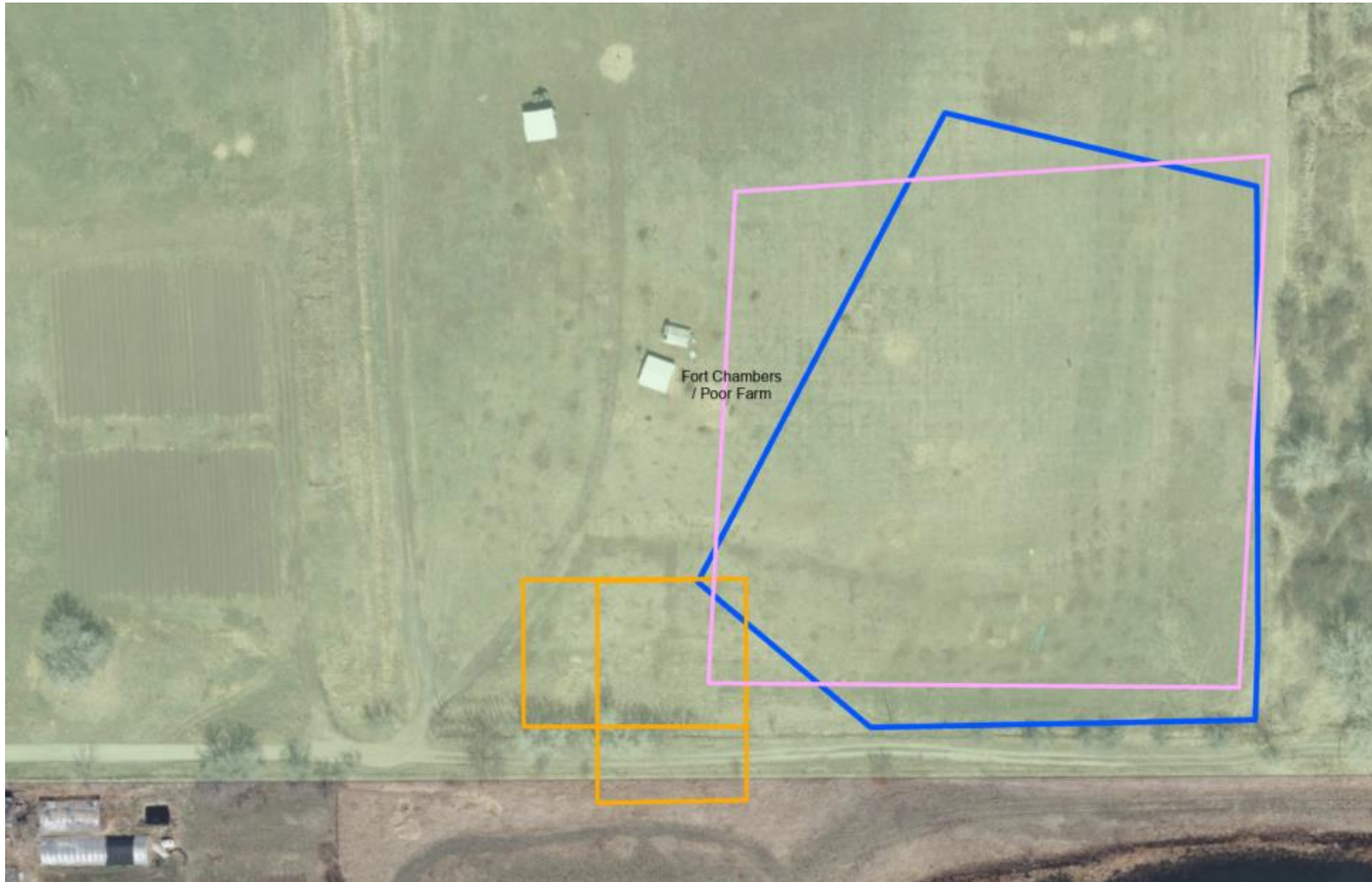
- Survey conducted 10/2/2021
- 2.85 acres covering majority of hypothesized search area
- 15-meter (50-foot) spaced transects
- Results:
 - One potential feature identified



Class III Cultural Resource Survey: Magnetometry Survey 2021

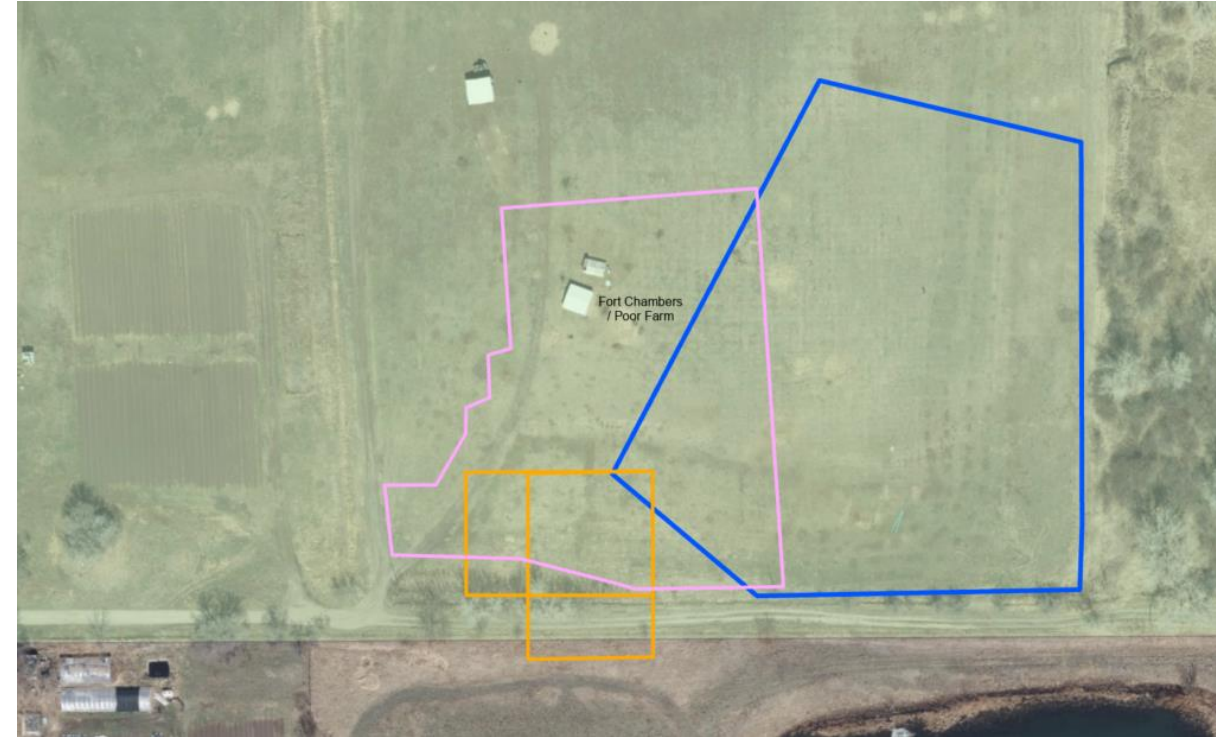


Class III Cultural Resource Survey: Magnetometry Survey 2021



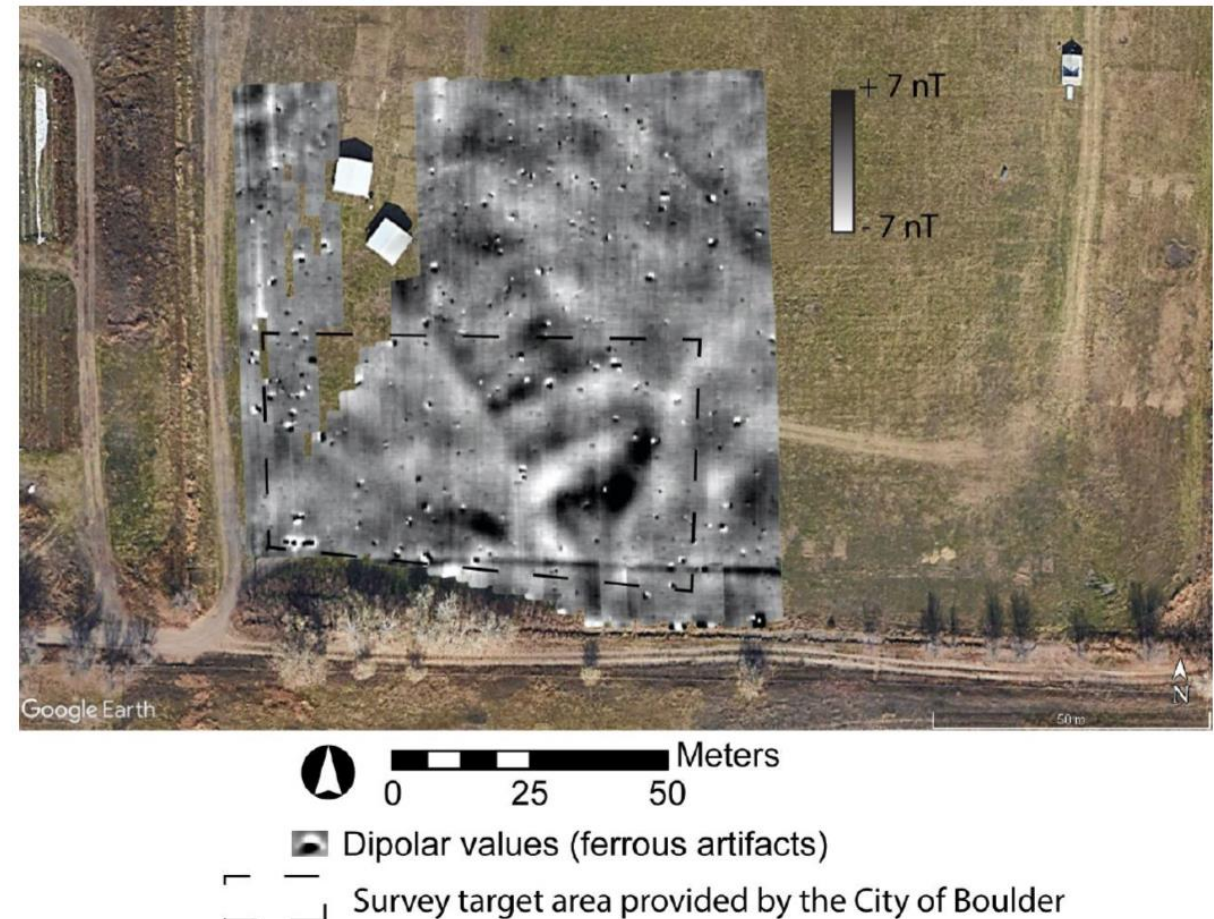
Class III Cultural Resource Survey: Magnetometry Survey 2022

- Follow-up survey conducted on 10/9/2022 by Dr. Andy Creekmore of UNC Fort Collins
- 1.7 acres covering area of identified potential feature and beyond
- 15-meter (50-foot) spaced transects



Class III Cultural Resource Survey: Magnetometry Survey 2022

- Results:
 - Potential 2021 feature not located by 2022 survey.
 - Large diagonal feature is the wrong shape, size, and orientation to be associated with the fort based on archival records and the previous magnetometry survey.
 - Diagonal feature hypothesized to represent deposits of organic material likely related to agriculture and/or drainage.



Class III Cultural Resource Survey: Shovel Test Survey 2024

- 1.77-acre area proposed for ground disturbance
- 22x 50-centimeter diameter shovel tests excavated at 15-meter (50-foot) intervals
- All tests attempted to reach a maximum depth of 1-meter (3.2-feet)
- Soil profiles broadly conform with USDA Boulder County soil survey data
- Disturbance from plowing observed down to at least 2-feet BGS
- No features or artifacts potentially associated with the fort were located



Class III Cultural Resource Survey: Metal Detector Survey-2024

- Conducted by OSMP staff and Volunteers 11/24-25/2024.
- Eureka Metal Detecting Club Historic Artifact Recovery Team (HART) and Indian Peaks Chapter of Colorado Archaeological Society (IPCAS).
- Unstructured survey performed by HART volunteers over a large proportion of the eastern field and other areas.
- All targets flagged and recorded by OSMP staff and IPCAS volunteers.



Class III Cultural Resource Survey: Metal Detector Survey 2024

- Results:
 - 547 total targets, mostly agricultural and domestic trash (modern and historical)
 - 25 (4.57%) “period targets”
 - 8 (1.46%) “period targets” potentially associated with the Fort Chambers period



Metal detector Survey Results:

Rifle Butt Plate

- Found in eastern field
- Brass rifle butt plate identified as from a Kentucky Long Rifle.
- Hand-tooled smooth bore musket in use between circa 1700 and circa 1900. Some were later rifled.
- Documented use by early western settlers. Also used by Civil War volunteers during first years of war. However:
 - Such arms were quickly replaced by Union army.
 - Use of smooth bores falls off sharply with invention of conical bullets (Dillin 1924).
 - Due to the hand-manufactured nature of these antiquated firearms, The federal government did not issue these types of rifles in in the 1860s.
- Result: Artifact likely represents domestic trash and is not associated with the fort.



Metal detector Survey Results: “Minié” (Burton) Balls

- 6 conical bullets recovered
 - 1 from eastern field (.52 caliber)
 - 5 from outside of eastern field (.54 caliber)
 - All bullets were fired, not dropped
- Result: The .54 bullets MAY indicate a location of live-fire training and does not provide any information about the location of the fort.



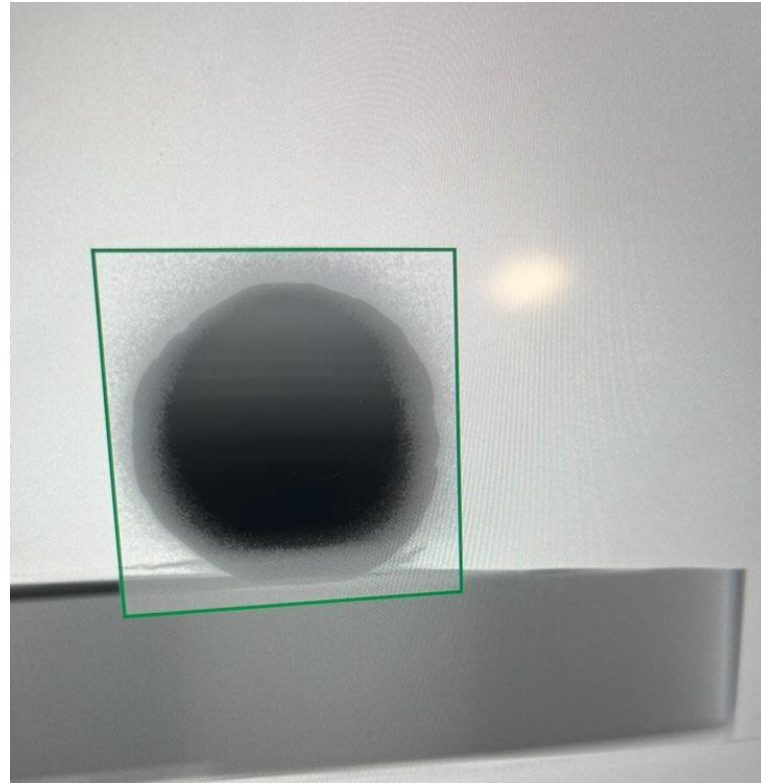
Metal detector Survey Results: Lead Ball

- Found in eastern field a significant distance northwest of the marker indicated location
- 1 ½” diameter, weighs 10.5 oz
- Small indentation/hole noted upon recovery
- Initially thought to maybe be a cannonball or canister shot, however, Company D was not issued artillery.
- Ball is clearly handmade



Metal detector Survey Results: Lead Ball

- Ball was determined to be hollow during inspection
- Interior packed with black granular substance and fibers.
- Granular substance concentrated near hole. Fibers filled remainder of void.



Metal detector Survey Results: Lead Ball

- Forensic chemical analysis performed by Dr. April Hill of MSU Denver
 - Infrared spectroscopy (IR)
 - Inductively coupled plasma mass spectrometry (ICP-MS)
- Fibers inside may be plain cotton or cotton treated with nitrocellulose (IR test was inconclusive)
- ICP-MS identified components consistent with black powder
- Result: The object is believed to be a civilian-made improvised explosive device associated with Fort Chambers.

Preliminary Conclusions

- The fort structure no-longer exists on OSMP land. The fort was likely located south or east of the eastern field and was destroyed by gravel mining between 1966 and 1970
- Artifacts recovered from metal detector survey MAY be associated with the militias or Company D.
 - Five .54 bullets MAY indicate the practice of live-fire training in the area. That location is outside of the eastern field.
 - One artifact (lead ball/IED) is associated with Fort Chambers and roughly indicates that the fortification was once present in the vicinity of the marker-indicated location.

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