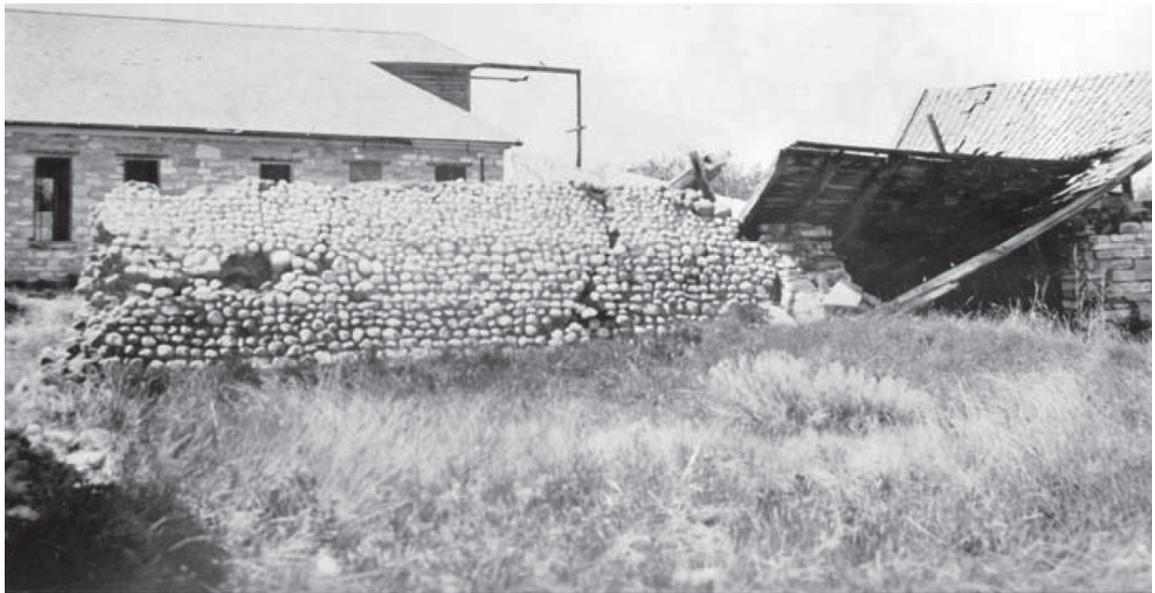


THE WYOMING ARCHAEOLOGIST



VOLUME 55(2)
FALL 2011
ISSN: 0043-9665

**[THIS ISSUE
PUBLISHED
December 2012]**

THE WYOMING ARCHAEOLOGIST

Wyoming Archaeological Society, Inc.

Larry Amundson, President
85 Goosenob Dr
Riverton, WY 82501
307-856-3373
Email larryamundson@wyoming.com

Bill Scoggin, 1st Vice President
PO Box 456
Rawlins, WY 82301-0456
Email wscoggin@q.com

Judy Wolf, 2nd Vice President
1657 Riverside Dr
Laramie, WY 82070-6627
Email jkwolf@uwyo.edu

Carolyn M Buff, Executive Secretary/Treasurer
1617 Westridge Terrace
Casper, WY 82604-3305
Email jcbuff@bresnan.net
307-234-5424-h; 307-277-1370-c

Dewey Baars, Editor
1000 W 19th St
Wheatland, WY 82201-2343
Email baars@wyomingwireless.com
307-331-1177

Danny N. Walker, Managing Editor
1687 Coughlin St
Laramie WY 82072
307-766-5565
Email dnwalker@uwyo.edu

Russ Tanner, Book Review Editor
745 Ridge Ave
Rock Springs, WY 82901

THE WYOMING ARCHAEOLOGIST is published quarterly by the Wyoming Archaeological Society, Inc, with the assistance of the Wyoming Department of State Parks and Cultural Resources. Address manuscripts and news items for publication to: Dewey Baars, Editor, The Wyoming Archaeologist, 1000 W 19th St, Wheatland, WY 82201-2343.

Please send a minimum of two (2) hard copies of each manuscript submitted. A third copy would speed the process. Please contact the Managing Editor for instructions if the manuscript is available in electronic format. Readers should consult the articles in this issue for style and format. Deadline for submission of copy for spring issues is January 1 and for all issues is July 1. Reports and articles received by the Managing Editor after those dates will be held for the following issue.

The membership period is from January 1 through December 31. All subscriptions expire with the Fall/Winter issue and renewals are due January 1 of each year. Continuing members whose dues are not paid by March 31 of the new year will receive back issues only upon payment of \$5.00 per issue. If you have a change of address, please notify the Executive Secretary/Treasurer. Your *WYOMING ARCHAEOLOGIST* will not be forwarded unless payment is received for return and forwarding postage. Back issues in print can be purchased for \$5.00 each, plus postage. Back issues out of print are available at \$0.25 per page plus postage.

Checks for chapter subscriptions and renewals should be sent to the chapter secretary involved. All other checks, subscriptions, and renewals should be addressed to the Executive Secretary/Treasurer. Correspondence and orders for back issues should be addressed to the Executive Secretary/Treasurer.

Society yearly subscription rates are as follows:

Individual Associate Member - \$20.00
Institutional Member - \$30.00
Canada and Other Foreign - \$34.00

Other memberships may be available. Contact the Executive Secretary/Treasurer for information. Local chapter dues are in addition to state society dues. The Wyoming Archaeological Society is a Nonprofit Organization.

The Wyoming Archaeological Society, Inc. and its local chapters do not discriminate on the basis of age, gender, sexual orientation, gender identity, gender expression, ethnicity, disability, national origin, political affiliation, or religious belief.

Neither the State of Wyoming, the Wyoming Department of State Parks and Cultural Resources, the Office of the Wyoming State Archaeologist, the Wyoming Archaeological Society, Inc., nor their employees or appointed or elected officials can be held responsible for any comment or viewpoint expressed in any issue of *The Wyoming Archaeologist*. The author(s) of each article or issue are totally responsible for the content and view expressed in their paper(s).

2011 CHAPTER INFORMATION

Absaroka Chapter

Chapter Address – PO Box 181 – Cody 82414-0181
Sylvia Huber, President – 307-527-7523

PO Box 522 – Cody 82414-0522
Email eagleofcody@trib.com

Glenda Bell, Vice President – 307-754-2812
437 S Ferris St – Powell 82435-3011
Email fisherbelle@bresnan.net

Cathy Mills, Secretary – 307-578-8193
PO Box 3067 – Cody 82414-5903
Email bearbarn@bresnan.net

Jackie Platt, Historian – 307-587-5031
202 23rd St – Cody 82414

Ancient Trails Chapter

Dr. Alice Tratebas, President
PO Box 883 – Newcastle 82701-0883

Casper Chapter

Dr. Mavis Greer, President – 307-473-2054
2599 S Paradise Dr – Casper 82604-3811
Email mavis@greerservices.com

Dr. John Greer, Secretary – 307-473-2054
2599 S Paradise Dr – Casper 82604-3811
Email jgreer@greerservices.com

Carolyn M Buff, Treasurer – 307-234-5424
1617 Westridge Terrace – Casper 82604-3305
Email jcbuff@optim.um.net

Cheyenne Chapter

Dan Bach – President and Secretary – 307-514-2685
2433 Council Bluff – Cheyenne 82009
Email macrofloral@msn.com

Dr Russ Kaldenberg, President and Treasurer –
307-772-9317
453 Vandehie Ave #140 – Cheyenne 82009
Email rkaldenberg@asmaffiliates.com

Fremont County Chapter

Gene Thompson, President - 307-335-7102
32 Robin Rd – Lander 82520-9119

Leniegh Shrinar, Vice President
146 Mazet Rd – Riverton 82501
Email lschrin@tribcsp.com

Judy Inberg, Secretary – 307-307-856-4339
460 W Mountain View Dr – Riverton 82501-9302

Larry Amundson, Treasurer – 307-856-3373
85 Goose Knob Dr– Riverton 82501-8306
Email larryamundson@wyoming.com

June Frison Chapter

Joe Wheeler – President
902 E Kearney St – Laramie 82070-3911

Richard Adams, Vice President
611 S 11th St - Laramie 82072-4013
Email Richard.adams@wyo.gov

Carmen Clayton, Secretary – 307-742-7669
855 N Pine – Laramie 82072
Email Carmen.clayton@wyo.gov

Dale Wedel, Treasurer – 307-745-6406
2675 Monroe St – Laramie 82070
Email dale.wedel@wyo.gov

Pumpkin Buttes Chapter

Tommie Butler, President – 307-307-682-7447
205 Overland Tr – Gillette 82716-4328
Email tobutler@bresnan.net

Denise Tugman, Vice President – 307-351-6919
1605 Sunridge Ave – Gillette 82718-7663
Email dtugman@lsi-inc.us

Mike Stone, Secretary/Treasurer – 307-682-6298
2279 State Hwy 50 – Gillette 82718
Email mak90_98@yahoo.com

Rawlins Chapter – inactive

Sheridan/Johnson County Chapter

Scott Burgan, President - 307-673-5997
1457 Pioneer Ed – Sheridan 82801-3333
Email scottburgan@bresnan.net

Chris White, Vice President
6 Taxi Dr – Sheridan 82801-9334

Viola Gardner – Secretary – 307-684-7759
492 N Adams – Buffalo -82834
Email viola.gardner@wyo.gov

BJ Earle, Vice President
PO Box 1106 – Buffalo 82834-1106

Sublette County Chapter

Sam Drucker, President –
Bob Diehl , Vice President
PO Box 332 – Pinedale 82941-0332

Dawn Ballou, Secretary/Treasurer
Email dawn@pinedaleonline.com

Sweetwater County Chapter

Bill Current, President – 307-362-0561
2901 Driftwood Ln – Rock Springs 82901-4394
Email current@onewest.net

Dave Legerski, Vice President - 307-382-6030
800 Ash St – Rock Sprints 82901-7111
Email lski@q.com

Pat Doak, Secretary/Treasurer – 307307-382-4623
3301 Clyman Dr – Rock Springs 82901-4302
Email kpdoak@wyoming.com

Teton County Chapter - inactive

Wyoming Archaeological Foundation

Janice Baars, President – Immediate Past President
1000 W 19th St – Wheatland 82201-2343
307-322-2851

Email baars@wyomingwireless.com
(term expires 2014)

Barbara Nahas-Keiry, Treasurer – 307-868-2685
PO Box 3146 – Cody 82414-3146
Email nahas@tctwest.net

Alice Tratebas, member-at-large
PO Box 883 – Newcastle 82701-0883
(term expires 2012)

John Laughlin, member-at-large
1215 S 13th St – Laramie 82070-4632
Email john.laughlin@wyo.gov
(term expires 2013)

Dr. Robert Kelly – George C. Frison Institute Director
Email rikelly@uwyo.edu

Dr. George Frison, ex-officio – 307-745-9277
Email gcfison@uwyo.edu

Dr. Mary Lou Larson, ex-officio – Laramie - Secretary
Email mlarson@uwyo.edu

Dr. Mark Miller, ex-officio – Laramie
Email mmiller@uwyo.edu

Dr. Marcel Kornfeld – Hell Gap Site Manager

Carolyn M Buff
Wyoming Archaeological Society
Executive Secretary/Treasurer
1617 Westridge Terrace
Casper WY 82604-3305

Non-Profit Org.
U.S. POSTAGE
PAID.
Laramie, WY 82070
Permit No. 24

THE WYOMING ARCHAEOLOGIST

VOLUME 55(2), FALL 2011

Table of Contents

WYOMING ARCHAEOLOGICAL SOCIETY FINANCIAL DONATION FORM.....	2	
WYOMING ARCHAEOLOGICAL FOUNDATION FINANCIAL DONATION FORM.....	2	
NEWS AND ANNOUNCEMENTS		
IN MEMORIUM: Grant H. Willson	3	
IN MEMORIUM: Ada Bouril Jackson	4	
2012 PRELIMINARY WAS MEETING ANNOUNCEMENT	40	
Minutes 2011 Annual WAF Meeting	7	
TEST EXCAVATIONS ALONG THE MORMON CORRAL WALL: FORT BRIDGER, WYOMING by A. Dudley Gardner, David E. Johnson and Martin Lammers		11
WYOMING ARCHAEOLOGY MONTH, 2012 Proclamation	6	
A MALLORY SITE (48AB396) IN THE SNOWY RANGE MOUNTAINS OF SOUTHEASTERN WYOMING by David Eckles and David Reiss	41	
BOOK REVIEW		
<i>Prehistoric Hunter-Gatherers Of The High Plains And Rockies</i> , Third Edition, by Marcel Kornfeld, George C. Frison, and Mary Lou Larson reviewed by Mark S. Becker, Russell L. Kaldenberg, and Judyth E. Reed	46	

THIS ISSUE PUBLISHED DECEMBER 2012

**WYOMING ARCHAEOLOGICAL SOCIETY
MEMORIAL GIFT or CONTRIBUTION FORM**

Given by: Miss, Mrs., Mr., Ms., Dr. \$ _____ (Amount)

Name: Last _____ First _____ Middle _____

Address: _____ City & State _____ Zip _____

Donor phone number () _____

TYPE OF GIFT: General Contribution [] Specific Contribution []

In Memory of: _____
Name City & State

In Honor of: _____
Name City & State

Specify where you would like your money to go (e.g., Mulloy or Frison Scholarship Funds, The Wyoming Archaeologist, ????????)

Please make your check payable to **THE WYOMING ARCHAEOLOGICAL SOCIETY**
Send to Carolyn Buff, Executive Secretary/Treasurer, 1617 Westridge Terrace, Casper, WY 82604

**WYOMING ARCHAEOLOGICAL FOUNDATION
MEMORIAL GIFT or CONTRIBUTION FORM**

Given By: Miss, Mrs., Mr., Ms., Dr. \$ _____ (amount)

NAME: LAST _____ FIRST _____ MIDDLE _____

ADDRESS: _____ CITY & STATE _____ ZIP _____

Donor phone number: _____

Type of Gift: General Contribution [] Specific Contribution []

In Memory of: _____
Name City & State

In Honor of: _____
Name City & State

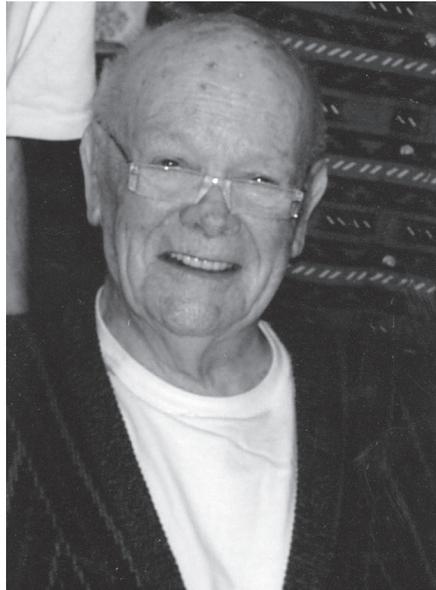
Please specify where your donation is to be placed.
Jensen/Robson Research Grant _____; Jensen/Robson PhD Travel Award _____;
Hell Gap Research _____; WAF General Operations _____; Other _____.

WAF Funding Initiatives: George C. Frison Institute Endowment _____.

WAF has pledged \$100,000.00 to the Frison Institute Endowment (2011 – 2016). Funds given to the GFI Endowment will be matched dollar for dollar by the Wyoming State Legislature, doubling your donation. For further information please contact RLKelly@uwyo.edu, Frison Institute Director.

Please make your check payable to the **WYOMING ARCHAEOLOGICAL FOUNDATION** and mail to Barbara Nahas, WAF Treasurer, P.O. Box 725 – Cody WY, 82414; 307-868-2685.

IN MEMORIAM



Grant H. Willson
1920-2012

Grant Hull Willson, 92, of Cheyenne died Oct. 6 at the VA Medical Center in Cheyenne.

Born June 29, 1920, in Greeley, Colo., he completed his B.A. at the University of Colorado, his postgraduate studies at Babson College, midshipmen school at Columbia University, and was a civilian pilot. A lieutenant in the Navy, he was in charge of an escort carrier in the Aleutian Islands during World War II.

In 1946, he moved to Cheyenne to operate Skateland, Cheyenne's first roller skating rink. He later became the chief procurement officer at the Wyoming Highway Department.

He was one of the founding members of the Cheyenne chapter of the Wyoming Archaeology Society and the longest serving editor of the Wyoming Archaeologist magazine (1964-1976). In 1976, and again in 2006, he received the Golden Trowel Award and lifetime membership.

He also volunteered at the State Museum and the Travel Commission. Years ago, he donated the family collection of Indian artifacts to the University of Wyoming. Unusual with personal collections, he meticulously documented the site locations and particulars for each artifact.

At 89, he was the oldest student to receive advanced Buddhist dharma teachings from the abbot of the Dari Rulai Temple in Los Angeles.

Mr. Willson is survived by three children, Warrack Grant Willson of Fairbanks, Alaska, Gale Norcross Willson and Cynthia Norcross Willson, both of Cheyenne; grandchildren, Leslie, Wes and Lisa Jo; and great-grandchildren, Celia, Sophia, Roan and Finn. The family owes special thanks to Laura Thomas who, with Gale, helped care for Dad at home until the last four days.

He was preceded in death by his wife, Betty Jo Norcross Willson; son, James Norcross Willson; and his parents, Gordon Grant and Vera Willson.

A dharma rite was performed on the ninth day at Wisdom Eye Dharma Center in Fort Collins, and another dharma rite will be conducted by the Dari Rulai Temple in Los Angeles.

Grant's ashes will be buried at 10 a.m. Nov. 17 in the family plot at Linn Grove Cemetery in Greeley. There will be an open house Nov. 17 and 18 from 2 to 8 p.m. to celebrate his life and share stories. Grant will be honored along with other veterans at the VA Chapel at 3 p.m. Nov. 30.

IN MEMORIUM

Ada Bouril Jackson 1916-2012

Ada Bouril Jackson, former Saratoga resident, died Sept. 7 in Tempe, Ariz., two days before her 96th birthday.

Jackson Marie Bouril Jackson was born Sept. 9, 1916, the youngest and last surviving of the four children born to Charles Joseph and Anna Marie Oberland Bouril of Manitowoc, Wisconsin; a family proud of their Bohemian Czech heritage.

Jackson was a bit of a rebel against family discipline during her childhood, having fits and standoffs with her siblings and parents. She had an independent and self-sufficient personality, even then!

She was the only member of her family to graduate from college, earning a teaching degree in physical education from Wisconsin State University, La Crosse in 1938. She taught for several years, and when she received her first paycheck she thought, "Gee, I'm getting paid for this!"

Then the Japanese bombed Pearl Harbor and America went to war. Jackson became a "Rosie the Riveter," working in a factory in Milwaukee for Alis Chalmers. When the war was over, she decided to travel, and she wanted to give her job "to someone who needed it more than I did." Travelling first to Florida and then to California where her sister, Louise, lived, she found that she loved the greater West and made the West her home thereafter.

Her first job was on a guest ranch (owned by the sister of Randolph Hearst) where she said her "gift of gab" allowed her to become a tour guide. Then, one Memorial Day weekend, she was asked to work as a waitress. "That's when I found out about tips," she later said, and she liked the work. After that, Jackson waitressed in a Hungarian restaurant in Tucson.

While there, she applied for and received a job with Hobergs, a resort north of San Francisco, ultimately becoming the head waitress. Hobergs later built a new resort in Borrego, Calif., where she was in charge of the dining room. With this move, her interest in archeology was whetted.

During those years at Borrego, Jackson studied

archeology, purchased a surplus World War II Jeep, and roamed the desert nearby, further developing that interest in archeology.

She formed an annual routine of working both the winter and summer resort seasons and travelling in between. She worked the winters at a resort named Castle Hot Springs, east of Wickenburg, Ariz., and summers at the Saratoga Inn in Wyoming.

During these years, this independent woman traveled throughout the United States and Canada. In 1951, Jackson made her first trip to Europe, visiting a niece in England, and then toured much of Europe alone. "That was the era of Europe on \$5 a day," she said. Later, she raised it to \$10 per day.

Throughout her life, she toured the world; Europe, Central America, China, Australia, South America, Japan and Taiwan. Jackson kept the Saratoga folks informed of her travels with a "Here and There" column in the Saratoga Sun. Her last major travel was to China in the 1990s.

When asked how she could afford these trips, she said "I economized when I could, I had my tips, and I had stock market tips." She learned enough to invest in the stock market and was disciplined in following her investments and the advice of her contacts.

Jackson moved permanently to Saratoga in 1961, living in what was affectionately known as the "Mouse House." In 1971, Jackson married and spent a year traveling with her husband. The marriage didn't last and they separated, though she did keep the Jackson name, liking the simplicity of not having to spell and explain the name Bouril.

Jackson worked at the Old Baldy Club in Saratoga as a waitress, and later as a tour guide. During these years, she became an avid "brookie" fisherman, an outdoors camper in her VW bus, and in American Indian archaeology, as she called it: being an "Injun" hunter.

She became active in Wyoming archaeology, joining the Wyoming Archaeological Society and enjoying numerous discussions with professional archaeologists at the University of Wyoming. She

also joined the local archaeology club and was instrumental in developing the World Atlatl Championships in Saratoga. These contests were held for a number of years, attracting people from as far away as China. These contests are still held in various locations in the U.S., though no longer in Saratoga, except in the local schools.

Perhaps Jackson's finest archaeological achievement was the permanent "Katharine Bakeless Nason" archeology exhibit in the Saratoga Museum, housing numerous archaeological artifacts donated by local residents and the University of Wyoming. Also associated with the museum is the Atlatl Press, with funds available to encourage the publishing of archaeological information germane to the museum - again thanks to Jackson.

Jackson's eyesight gradually failed from macular degeneration. However, she planned for her

retirement in the Phoenix area, which she knew, and also had longtime and very close friends from the Saratoga Inn days. It was important for Jackson, with no children or spouse, to arrange for her own retirement care so she would not become a burden to others.

Jackson made the move to Friendship Village in the early '90s where she was active immediately, founding the "Happy Trekkers" hiking club. She continued to hike until knee replacement surgery and age limited her stamina.

Jackson will be interred with other family members at the Evergreen Cemetery in Manitowoc.

Memorials in Jackson's name may be made to the Saratoga Museum.

Saratoga Sun. Thursday, September 13 2012



WYOMING ARCHAEOLOGY MONTH, 2012

In celebration of the Archaeology in Wyoming and the sesquicentennial of the 1862 Homestead Act, Governor Matt Mead proclaimed September as the 20th anniversary of Wyoming Archaeology Awareness Month during a brief ceremony in his office today. According to the proclamation, the study of archaeology and homesteading in Wyoming is made possible through analysis of artifacts, buildings, structures and features that immigrants left on the Wyoming landscape.

The WAAM celebration will include the 14th Annual George C. Frison Institute of Archaeology and Anthropology sponsored lecture by Curtis Marean, from Arizona State University who will discuss Middle Paleolithic archaeology of Africa. The lecture will be held at the University of Wyoming on September 27th at 4:00 pm.

The centerpiece of WAAM is a poster produced every year. It is distributed statewide, nationally, and internationally to more than 5,000 people and

organizations to commemorate Wyoming Archaeology Awareness Month.

Wyoming posters have been honored with numerous awards in the State Archaeology Week Poster Contest sponsored by the Society for American Archaeology's Public Education Committee and Council of Affiliated Societies.

The 2012 WAAM poster is available free of charge, and may be picked up at the State Historic Preservation Office, Barrett Building, 2301 Central Avenue in Cheyenne, or in Laramie in the Anthropology Building located at 12th and Lewis, Room 312. The posters are also available via mail with a \$10 charge to cover mailing costs. Limit one poster per person. Send your request along with a check or money order payable to "Wyoming Archaeology Month" and your name and mailing address to: Judy Wolf, State Historic Preservation Office, Wyoming Archaeology Month, Dept. 3431, 1000 E. University Ave., Laramie, WY 82071.

MINUTES
WYOMING ARCHAEOLOGICAL
FOUNDATION BOARD MEETING
 Sunday, April 17, 2011 – Sheridan, Wyoming

The annual meeting of the Wyoming Archaeological Foundation Board of Directors was held in conjunction with the 58th Annual Wyoming Archaeological Society Meeting at the Holiday Inn, Chaparral Room, at 7:00 am. Board members in attendance included: Margaret Harless (President and Member-at-Large), Barb Nahas (Treasurer, ex-officio), Mary Lou Larson (Secretary, University of Wyoming, Department of Anthropology, ex-officio), Mark Miller (State Archaeologist, ex-officio), Janice Baars (outgoing WAS President), Larry Amundson (in-coming WAS President), Dale Wedel (WAS Immediate Past President), John Laughlin (Member-at-Large), Alice Tratebas (Member-at-Large), Dewey Baars (Hell Gap site caretaker), Marcel Kornfeld (Hell Gap site caretaker), Bob Kelly (George C. Frison Institute).

President Margaret Harless called the meeting to order at 7:05 am.

Margaret introduced John Laughlin (new Member-At-Large) and Larry Amundson, (new WAS President) to the WAF Board.

Minutes of the Last Meeting:

Margaret asked if there were any additions, corrections to the 2010 minutes of the WAF Board Meeting. Hearing none, motion to accept the minutes passed unanimously by voice vote. Motion made by Barb, seconded by Janice.

TREASURER’S REPORT

Barb presented and discussed the Treasurer’s Report.

Balance in checking as of 4/01/2010 \$3,482.97

Income:

Henry Jensen Estate (Oil Royalties)	\$2,324.48
University of Wyoming (Scholarship Match)	\$ 750.00
Jensen Doctorial Award – WAS/WAPA Match	\$ 500.00
Book Royalties	\$ 537.13

Total Income	\$4,111.61
	\$4,111.61

Expenditures:

Traveler’s Insurance	\$1,648.00
Wells Fargo – Safe Deposit Box/Fees	\$ 10.00
Goshen County Treasurer	\$ 402.63
Wyoming Secretary of State Annual Report	\$ 25.00
Postmaster – Annual P.O. Rental	\$ 119.67
Dewey Baars – Gift Certificate	\$ 105.44
Hell Gap Maintenance	\$ 705.90
Jensen Doctorial Awards	\$1,500.00
Total Expenditures	(\$4,516.64)
	(\$4,516.64)

Balance in Checking as of 3/31/2011 \$3,077.94

Reserve Funds

Foundation Operations

Certificate of Deposit #6026430

(a/o 04/01/2010)	\$13,849.62
Interest paid (2010/2011)	\$ 27.49
Balance Ending (a/o 03/31/2011)	\$13,877.11

Money Market Account #20098502

(a/o 04/01/2010)	\$ 9,047.37
Interest Paid 2010/2011	\$ 28.93
Deposit 2010	\$ 9,391.00
Withdrawal 2010	\$ 825.00
Balance Ending (a/o 3/31/2011)	\$17,642.30

Foundation Operations Sub-Total \$31,519.41

Henry E. Jensen Trust

Certificate of Deposit #6015170

(a/o 04/01/2010)	\$18,769.62
Interest Paid 2010/2011	\$ 15.15
Balance Ending (a/o 03/31/2011)	\$18,784.77

Certificate of Deposit #6213161

(a/o 04/01/2010)	\$5,584.60
Interest Paid 2010/2011	\$ 4.82
Balance Ending (a/o 04/01/2011)	\$5,589.42

Jensen Research Grant

Certificate of Deposit #6015170

(a/o 04/01/2010)	\$21,090.59
Interest Paid 2010/2011	\$ 19.27
Balance Ending (a/o 3/31/2011)	
\$21,109.86	

Jensen Trust Sub-Total \$45,484.05

Clovis to Cowboy Fundraiser

Money Market Account #20098502

(a/o 04/01/2010)	\$745.00
Deposit 2010/2011	\$100.00
Balance Ending (a/o 03/31/2011)	\$845.00

Fundraiser Sub-Total \$845.00

George Frison Endowment

Money Market Account #20098502

(a/o 04/01/2010)	\$ 2,173.35
Interest Paid 2010/2011	\$ 13.65
Deposits 2010/2011	\$18,215.00
Withdrawal 2010	\$ 215.00
Balance Ending	
(a/o 03/31/2011)	\$20,187.00

Endowment Sub-Total \$20,187.00

Total Net Worth as of March 31 2011

\$101,113.40

Janice moved, John seconded that we accept the treasurer's report.

Final Jensen's distribution letter:

Henry Jensen's final amount in the trust was sent to the Foundation this year. We will not receive any more lump sums from the Jensen account, but, will get royalties from his oil leases. The Salt Creek lease is the only one currently that is producing.

This year's audit was completed by Dale Wedel (chair), Margaret Harless, and Janice Baars. The books were reported to be in order. Dale noted the increase in net worth of \$26,370.28. The auditor's report was accepted by the Board. Mark moved and Larry seconded that we accept the auditor's report. Barb noted that a large part of the increase in net worth is due to donations for the Frison Endowment.

OLD BUSINESS

WAF Fundraiser (Clovis to Cowboy Poster)

We still need to make \$27.00 on the poster to break even. After that the money earned will be split - 80% to the research grant; 20% to the WAF operating fund. Mark commented that we need to add a statement, to the donation slip in the *Wyoming Archaeologist*, that anyone who donates to the Foundation will receive a poster. John Laughlin was asked to put an announcement about the poster onto the WAPA/WAS web site.

Foundation Stationery

Alice read a note from B. J. Earle about the status on her art work for the Foundation stationery. Barb reminded the Board that after the artwork is finished, we will have to have a lawyer help us draw up legal papers transferring copyright from B. J. to the Foundation. She then explained the history of former logos and why the Board commissioned BJ Earle to draw us a logo (of a mammoth).

Margaret Harless asked if there was any other old business; there was none.

NEW BUSINESS

Jensen Research Grant Applications

There were three applicants for the Jensen Research Grant. One of those was a member of the WAF Board; therefore, since one of the members of the Board applied they must withdraw from voting and discussion. Mary Lou Larson and Marcel Kornfeld left the room before discussion began.

Barbara Nahas was appointed Secretary for the discussion.

Mark Miller brought before the Board that we had the money in the account and we should consider all three applicants be awarded. Barbara stated that since the grant inception (2007) there were two years where no one applied. Also, she stated the reason Henry Jensen gave us the money was to further archaeology investigations.

Mark Miller moved we award each applicant the amount requested on their applications. Barbara Nahas second. **Discussion:** Alice Tratebas stated that Mary Lou's and Rory's request had thorough details about where the project would take place. But, she questioned Cody's because there wasn't a specific site location. She would like to see additional information before the money be awarded. Mark explained that Cody couldn't be site specific since no documented archaeological work has been done in the area where he is looking. Therefore,

once his investigation starts he can get more specific. Mark is on Cody's dissertation committee and will talk with Cody and will keep the WAF Board updated on site specifics. The Board agreed to send Cody the award check immediately so he can start his project. Hearing no other discussion; the motion was passed by voice; agreed by all.

The Board awarded three grants: Cody Newton (\$700), Rory Becker (\$1,000), and Mary Lou Larson (\$1,000).

Mary Lou and Marcel were called back into the meeting. The Secretary duties were once again given back to Mary Lou for the remainder of the meeting.

Hell Gap Report

Marcel gave a discussion of the excavation progress at Hell Gap, stating that UW is still working under the second 10 year agreement. He handed out a preliminary list of Technical Reports, papers presented, publications, thesis, and dissertations completed on Hell Gap. He will make further updates and corrections to the list. Regarding Locality III, UW has had several people working on collections from Locality III and Vance Haynes is interested in pursuing more fieldwork at that location. Mary Lou received a grant from the University of Wyoming to catalog Locality III material.

Care and upkeep needs:

Dewey and Marcel are coordinating on the care and upkeep needs. Fencing and spot painting of the house – might do this over the summer during the WAS Summer Meeting. Some people are not interested in excavating, but are interested in helping with other aspects at Hell Gap. When comparing photos, from today with the 1960s photos, the creek now is full of trees. Marcel also reported that the water in the creek was up when he visited the site last fall.

Use in 2011:

June 18 – 19th will be Field school, open house, WAS Summer Meeting, and atlatl contest (coordinating with Wyoming Atlatl Association). Also, may have tours to other sites in the vicinity. A tour is scheduled for June 26th with the Pueblo Archaeological Society. Marcel reminded the Board that the Foundation agreement stipulates that UW Anthropology will oversee the research use of the Hell Gap site by others.

Status of Peterson Property Purchase:

Marcel reiterated that the property **was** in foreclosure, but currently is not. He did a draft map of the property, with two choice suggestions, that the Board consider purchasing. Permission to excavate on Locality III and V has not been a problem in the past.

Fire Plan:

Marcel discussed a potential fire plan for the property. He and Dewey suggest that we not allow any caterpillar or grading work be done anywhere on the property. He also has three areas marked on the map that should be protected (house, laboratory, Fenn-Mullins building, and weather port at Locality IIW). Alice suggested that the volunteer fire department be notified at the start of each fire season. Barb requested that Marcel send her a copy of the final map and list of what needs to be saved.

Other comments:

Mark commented now that we have a permanent position on the Board, Barb should have a file drawer of all of the material from the purchase of Hell Gap and other important documents. Barb will come to Laramie and go through various places (Repository, Mark's and Mary Lou's files, and other places).

John Laughlin mentioned the possibility of writing a National Historical Landmark nomination for the Hell Gap property. This will require a complete survey of the property. Discussion of what kind of nomination and how much land should be nominated then followed.

Frison Institute Endowment Fund

Bob reported that the second Institute Endowment (\$50,000.00) pledge has been met. However, it now appears that the state has put up another \$3.5 million to match endowments; but Bob needs to verify this further with the UW administration. Current WAF pledge is due May 11, 2011. Barb discussed how we should go about presenting the final pledge check to the UW Foundation. Barb moved that if funds are available for a new pledge, WAF should pledge up to \$100,000 to the Frison Institute Endowment. Janice seconded. Motion passed unanimously.

Barb mentioned the letter attached to the packet from Ben Blalock stating that the money in the current endowment is guaranteed.

Margaret asked if there was any other new busi-

ness. There was none.

Election of officers

Barb nominated and Dale seconded, Janice Baars - President and Mary Lou Larson - Secretary as officers for 2011/2012. Board accepted nomination of officers. (Barb is treasurer by appointment from the Board therefore no nomination necessary. She is considered member-at-large of WAS without a term on the WAF Board).

ANNOUNCEMENTS

Jensen Travel Award

One PhD graduate student from UW was awarded the Jensen Travel Award for 2011. WAS, WAF and WAPA all participate in sponsoring the Henry & Clara Jensen Doctoral Travel Award at \$250.00 each. Joe Gingrich recipient for 2011 received \$750.00. The University of Wyoming President's Office will match the total amount of the award (\$750.00) per discussions between Tom Buchanan, Mark Miller and Bob Kelly. Liz Lynch's thank you note for last year's travel award was part of the packet for this year's meeting.

Mary Lou mentioned that on the final distribution from Henry's Trust he expressed that distributions be given in memory of: Donald M. Robson, Lovina Swaim Robson, Clara M. Jensen, and Henry E. Jensen in some fitting and appropriate recognition made of said gifts created by WAF. The Board discussed whether we should change the names of the Research Grant and the Travel award to Jensen/Robson instead of listing all the first names. Barb moved and Janice seconded that we accept this

change. The research grant and travel award will now be known as: **Jensen/Robson Research Grant and Jensen/Robson Doctoral Travel Award.**

Audit committee for next year consists of Alice Tratebas (chair), John Laughlin, and Janice Baars.

Annual Meeting, 2012

The next WAS Spring Meeting will be held in Gillette, Wyoming sponsored by the Sundance and Gillette WAS chapters. Date and location to be announced.

Motion to adjourn

Meeting adjourned 8:32 am.

WAF Board Members 2010-2011:

- Margaret Harless (WAF President, Member-At-Large, term expires 2011)
- Barb Nahas (Treasurer / WAS Member-at-Large, ex-officio)
- Mary Lou Larson (Secretary, University of Wyoming, ex-officio)
- Mark Miller (State Archaeologist, ex-officio)
- Janice Baars (WAS President)
- Dale Wedel (WAS Immediate Past President)
- Alice Tratebas (Member-at-Large – Term Expires 2012)
- John Laughlin (Member-at-Large – Term Expires 2013)
- George C. Frison (Lifetime member)
- Robert L. Kelly (George C. Frison Institute)
- Marcel Kornfeld (Hell Gap Site Manager)

TEST EXCAVATIONS ALONG THE MORMON CORRAL WALL: FORT BRIDGER, WYOMING

by
**A. Dudley Gardner,
David E. Johnson
and
Martin Lammers**

INTRODUCTION

In 1989, at the request of the Wyoming State Archives, Museums, and Historical Department (AMH), Archaeological Services of Western Wyoming Community College (AS-WWC) conducted test excavations within the confines of the original Commissary Building at Fort Bridger. Test excavation units were located along the south side of the standing portion of the Mormon Corral Wall, which was a part of the Mormon Fortifications constructed in 1857. This wall section once formed a part of the north side of the Commissary Building, located on the east side of the fort compound (Figure 1). Because of its age and method of construction, the standing section of the Mormon Wall is beginning to show signs of structural decay, especially along its base. To stabilize the Mormon Wall, AMH proposed installation of a concrete footing along the base of the south side of the wall. This footing would extend along the length of the wall between the two stone and concrete supports now found at the east and west ends of the wall segment. The proposed concrete footing would extend to a depth of 12 inches below present ground surface (bpgs).

Test excavations were conducted November 31 and December 1, 1989 along the south side of the Mormon Wall to determine whether intact historic deposits were present in the area. Since the 1989 excavations, much has been learned about the Mormon Occupation at Fort Bridger and we have gained a

better comprehension of the nature and activities of the Mormon Colonies in the area. What follows is the original report in total with new sections of: 1) a historic overview, 2) a discussion of the stratigraphic context and 3) a brief summary discussion dealing with the construction of the Mormon Wall.

PREVIOUS WORK IN THE AREA

Earlier archaeological investigations have been conducted in and around the Commissary Building at Fort Bridger. In the summer of 1984, AS-WWC conducted test excavations within the Commissary structure (Gardner et al. 1985a). Three 1 x 2 m test units were excavated along the center of the structure. Excavations revealed up to 75 cm of intact cultural deposits dating to the Mormon and U.S. Army occupations of the site. A layer of charcoal found during the field work seemingly represented the burning of the Mormon fort in 1857. The presence of Jim Bridger's corral for his trading post was hypothesized, and new evidence seems to strengthen this hypothesis.

Archaeological excavations were also conducted in the guardhouse which stands immediately north of the Commissary Building. These excavations were conducted by the Office of the Wyoming State Archaeologist (OWSA) in the fall of 1984 (Hauff 1985). Eight test units comprising approximately 16 m² were excavated within the walls of the structure. Excavations revealed evidence of the

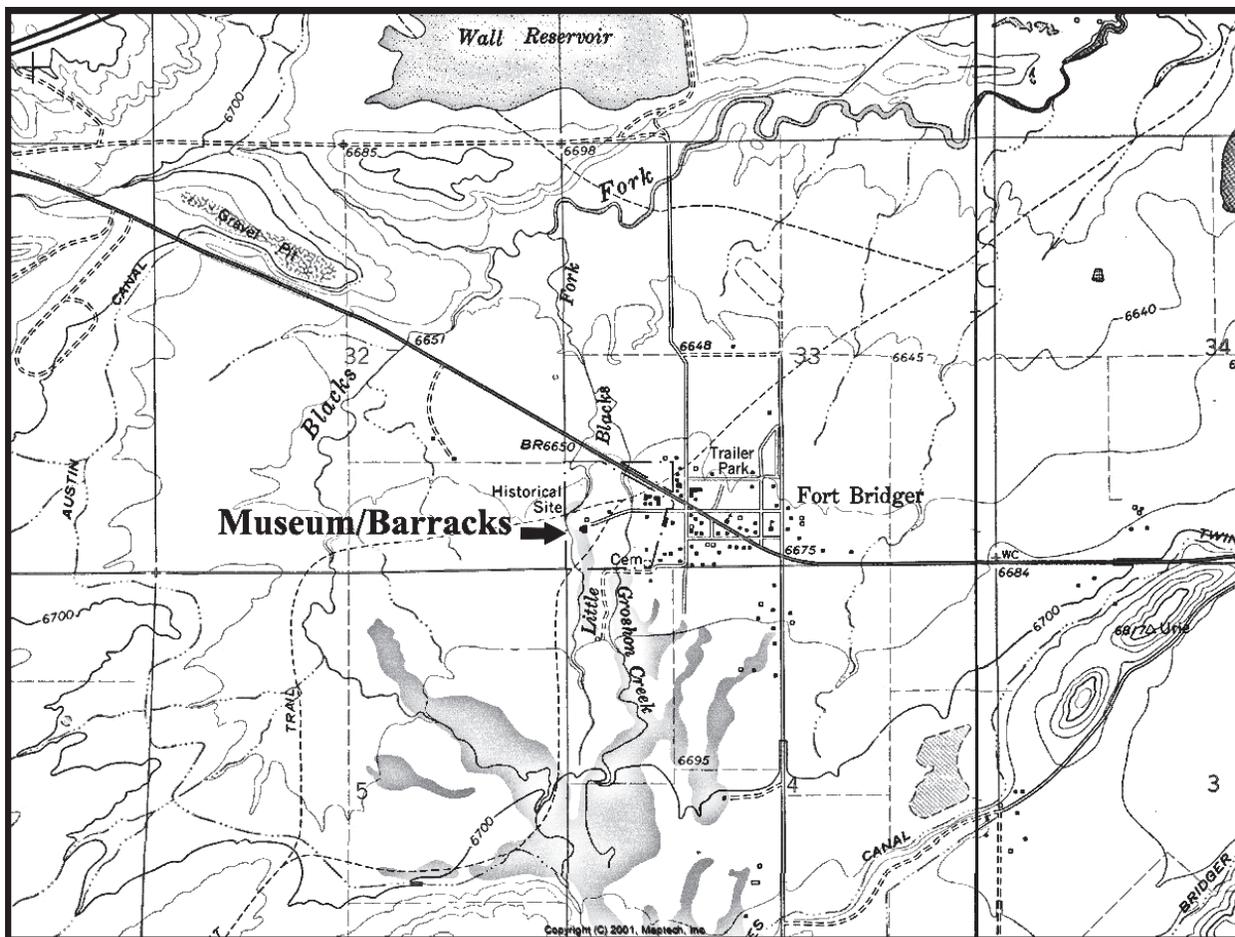


Figure 1: Location of Fort Bridger in Uinta County, Wyoming. Excavations centered around present Museum and Historic Barracks.

army occupation as well as a cobble feature which underlay the guardhouse and likely predated it. No conclusions were made on the nature of this feature.

Test excavations and trench monitors were conducted by AS-WWC near the reconstructed Bridger Trading Post in 1985. Excavations revealed a stone retaining wall and associated historic trash (Gardner et al. 1985b). It has long been known outlying structures dotted the Fort Bridger landscape from 1843-1890 and this wall may represent one of their foundations.

Other work done at Fort Bridger included a trench monitor of service lines to the Commanding Officer's quarters conducted by AS-WWC in the summer of 1984 (Gardner et al. 1985c). In the course of this monitor, archaeological features with associated historic artifacts were noted. West of the Commanding Officers quarters, excavations at the

location of the Fort Bridger Band Stand revealed evidence of the size, orientation, and construction details which allowed reconstruction of the structure (Hauff and Scott 1984).

HISTORIC CONTEXT

Jim Bridger built his fort on a high point between the three branches of the Blacks Fork River in 1843. It was designed to trade with the Native Americans who lived in the area, but the post also was constructed with an eye toward future trade with emigrants bound for Oregon. It was his third fort. His first fort was constructed along the banks of the Green River and was possibly south of present Green River near one of the Cherokee trail crossings (Madsen 1989:627). For several reasons, including most emigrant traffic traveled along routes north of his post on the Green River, Bridger moved his

trading post to a bench above the Blacks Fork Valley in 1842. The location of this fort, like the location of the first fort, is not known. In 1843, he moved it off the terrace above the river and down onto the valley bottom. This location had the advantage of broad pastures and easy access to the Oregon Trail.

While trail diaries exist which describe Bridger's Post between 1843 and 1847, it was the arrival of Mormon emigrants in 1847 traveling to the Salt Lake Valley which signaled an increase in wagon traffic through the Blacks Fork Valley. The 1849 Gold Rush increased not only traffic to the trading post but an awareness of its potential significance as a long term business. California-bound travelers traded for food, blankets, and moccasins at the post. By 1851, there were eleven houses and 46 people living in the "Green River Precinct" (US Census 1850; see Table 1).

Bridger's Post owed much of its success to the wives of the fort traders. Twenty-eight of the 46 individuals listed on the 1850 census were listed as "Indian." Most were children and most of the wives were Native Americans. They sewed moccasins, prepared food, and made leather goods for trade. The women proved to be excellent traders, a fact commented on by travelers through the area. Shoshoni and Ute women lived at the fort and some would remain part of the post even after the Mormon Church gained control of the fort in 1855.

The Mormons who gained control of the fort in

1855 actually followed Jim Bridger's trade patterns. The Mormons truly saw the Indians as trading partners and catered to their needs, first trading beads and other items and later trading barley, wheat, and potatoes to the Shoshoni and other tribes.

Gowans and Campbell (2003) point out the Mormon's policy toward the Native Americans in Utah territory was multi-faceted. First, and most important, since the Mormons viewed the world through eyes focused on their faith, they had an obligation to convert the Native Americans to their religion. Second, they wanted to maintain positive trade relations with the Indians. Third, they desired to build settlements on land claimed by the Shoshoni, Utes, Goshutes, Paiutes, or Bannocks. Fourth, they desired the Indians to serve as buffers between them and the various outside groups pressing against the borders of the State of Deseret or Utah as the federal government officially designated the territory. Fifth, they wanted to insure the peaceful passage of Mormon emigrants from the Missouri River to the Salt Lake Valley. Fort Bridger was key to this effect.

Sometimes the Mormon's policy was contradictory but so was the policy of the United States. Contradiction and the treatment of Native peoples were synonymous. Again, rather than focus on the failure of Indian policy and what did not occur, it is instructive to note the positive nature of non-violent interaction at the fort.

Chief Washakie and his band visited Fort

Table 1: Members of Louis Vasquez and James Bridger Families as Reported in 1850 Census of Fort Bridger, "Green River Precinct." While Record States 1850, Census Was Conducted in 1851.

NAME	AGE	GENDER	RACE		OCCUPATION
			W (WHITE)	IND (INDIAN)	
James Bridger	41	M	W		Indian Trader
Mary	20	F	Ind		
Felix	8	M	Ind		
Elizabeth	4	F	Ind		
Jane	3	F	Ind		
James Carson	[26]	M	W		Indian Trader
Lewis [Sic] Vasques	50	M	W		
Narcissa	31	F	W		
Hiram	8	M	W		
Lewis	3	M	W		
Mary	1	F	W		

Bridger long after the fort changed ownership. The Shoshoni viewed the settlements and emigrants passing through as valuable trading partners. As evidenced in diaries (Gowans and Campbell 2003) and in the archaeological record, native peoples lived at Fort Bridger while it was owned by “the Church.” In 1851, over half the people at Fort Bridger were classified as Indians. Living here as, at least, part-time residents, they left remnants of their life. The same can be said of the Indians who visited the fort when the Mormons occupied the fort (US Census 1850).

In 1855, the Mormon Church purchased Fort Bridger from Louis Vasquez for \$8,000 (Gowans and Campbell 2003). The purchase on behalf of the church was made by Lewis Robinson who began the process of remodeling the post completely. Their principle design centered on creating a supply hub for emigrants, a fortification to protect local settlers, and continuing the role of serving as a trading post for Native Americans. The new facility would use parts of Bridger’s Trading Post. While there is still some ambiguity as to what was done to the interior of the post, there is no lack of evidence as to what the exterior of the stone fort came to look like.

The post’s homes, trading post, and blacksmith shops were remodeled in 1855. The stone fort however was not built until 1857. On May 30, 1857, Lewis Robinson wrote Daniel H. Wells and reported: “In the first place I have laid out the Fort 100 feet square in the clear and a horse corral joining on the North 80 feet by 100 feet which I am putting up a wall 2 ½ feet thick at the bottom and 8 feet high” (Gowans and Campbell 1975:82). Archaeological excavations and military engineer maps show the main fortification was 100 feet by 100 feet and the cobble stone walls rose 15 feet high (c.f., 16 feet in some historical records) with a five foot wide base. Completed in August, 1857, the stone fort was an imposing site on the flood plain of the Blacks Fork. The Mormon occupation of Fort Bridger lasted two years, from 1855 to 1857 during which they actively remodeled the interior buildings and added new ones.

In remodeling the trading facilities, they kept some features and tore down others. They apparently kept Jim Bridger’s or another person’s home intact and remodeled the trading post, based on 1983-1990 archaeological excavations. They added a floor to

the trading post and stocked the store with ceramics, beads, pins, needles, cloth, and locally grown food. Based on the archaeological excavations, it appears some Native American women continued to live at the Mormon trading post. Grinding stones and other Native American tool stones above and beneath the burned wooden trading post floor indicate a significant presence. The historical record also indicates from 1855 to 1857 the Shoshoni continued to view Fort Bridger as a significant trading post (Gowans and Campbell 1975: 88-81)

In the late fall of 1857, the Mormon presence at Fort Bridger came abruptly to an end while Native Americans would remain in the vicinity for decades. The “Mormon War” or “Utah War” ended the Mormon occupation. The actual physical conflict only took place in southwestern Wyoming, and while no one died, it did change the political structure of the region. In 1857, President James Buchanan ordered Brigham Young, who also headed the Mormon Church, to step down as territorial governor of Utah. To enforce his edict, Buchanan ordered the Second Dragoons to accompany the newly appointed governor Alfred Cumming to Utah. This sent terror into the new Mormon colony in Utah. In 1847, they had fled west to avoid personal attacks like the one at Nauvoo, Illinois resulting in the death of their prophet Joseph Smith on June 27, 1844. Since their arrival in the Salt Lake Valley in 1847, the church had been left pretty much to their own devices, but this changed in 1857.

Complaints from several quarters had reached Washington D.C. of Brigham Young and officials in Utah territory overstepping their authority. The complaints, though overblown, came at a time when the South threatened the very fabric of the Union. President James Buchanan appears to have decided the supremacy of the United States needed to be asserted and Utah Territory would be a good place to show the Federal government’s ability to enforce its will. He appointed Alfred Cumming to take Brigham Young’s place as Territorial Governor and sent a military force to ensure he would have the authority to enforce Federal control. From Kansas, the First, Seventh, and Tenth Infantries along with the Second Dragoons marched westward up the Oregon Trail. Leaving on July 18th, it was feared they would not reach their destination before winter. With Colonel E.B. Alexander temporarily in charge, they reached

the Hams Fork on September 28, 1857. On October 2nd, 1857, Lewis Robinson burned the wooden buildings inside of Fort Bridger to the ground (Gowans and Campbell 1975:99). Shortly thereafter, Colonel Albert Sydney Johnston, as had been planned, took over the Utah Expedition.

General Johnston, who would eventually command the Southern Army at the battle of Shiloh, Tennessee in 1862, wrote on November the 6th, 1857 about winter having struck while en route to Fort Bridger. The cold racked “the bones of our men,” he wrote. He added, “our oxen, and mules and horses, already half starved . . . died on the way and at our camps by the hundreds. . . .” (Johnston 1997: 213). He noted the thermometer hit 16° below zero. They reached Fort Bridger by the 17th of November (Johnston 1997: 217). The loss of animals led him to dispatch “Captain Randolph B. Marcy to Fort Union, New Mexico for drought-mules, and a remount for dragoons and batteries . . .” (Johnston 1997: 214). Johnston fully expected Marcy to return to Fort Bridger by May 1, 1858. Marcy’s route would be over Bridger Pass. The success of Marcy’s expedition over Bridger Pass led, in the words of General Fitz-John Porter, “to the opening of the route . . . through Bridger’s Pass and down Bitter Creek” by the Sixth Infantry. The military would use this route extensively as the road was, in Porter’s opinion, “shorter, easier, and better for grass” (Johnston 1997:214 and 218). General Fitz-John Porter notes General Johnston “made constant representations and strenuous efforts to have this route open . . .” (Johnston 1997:214).

As the military marched toward Fort Bridger, Brigham Young ordered the church’s Navoo Militia, in all practicality the territory’s militia, to resist the military invasion. Fearing for their lives, volunteers in Utah joined in preparing for the defense of their homeland. Salt Lake City was prepared for abandonment and as the US Army headed west, Brigham Young decided on his war strategy. Young became convinced the best way to defeat the Army was to starve them and their animals. Winter had arrived in a fury with temperatures dipping to -50° Fahrenheit. He figured with no food and no fodder, the army would starve. From South Pass west, Young ordered the grasses burned by the militia. In the late fall of 1857, the Utah Legion burned a supply wagon at Simpson’s Hollow west of present Farson,

Wyoming. To Young’s horror, the military pressed on west and so he then ordered the burning of Fort Bridger, Fort Supply, Supply City, and all Mormon housing and settlements in the Blacks Fork Valley. Only a few months after the stone walls at Bridger had been completed, the post was burned, including Jim Bridger’s old home in the post.

The winter of 1857-1858 led to a negotiated peace and saw Cumming become the governor of Utah. It also witnessed a growth in the number of military parties traveling over Bridger Pass and down Bitter Creek with the intention of establishing a military road to Fort Bridger. The military also took the stone shell of the Mormon Fort and remodeled the post in the winter of 1857. They removed the burned timbers from inside the fort, added two lunettes, constructed a dry moat around the fort and built structures inside the stone compound. The fort would become a major military post and roads were improved to bring in supplies.

The surveys by Lieutenants Bryan and Marcy led to the improvement of the Bridger Pass Road and grew out of a need to directly connect Fort Bridger with Fort Leavenworth in eastern Kansas. When the military took control of Fort Bridger in 1857, they spent a great deal of effort improving the routes into and out of the post. With the onset of the Civil War in 1861 and the switch of the overland mail south from South Pass to the Overland Trail, patrols from Fort Bridger went eastward to ensure the road from Bridger Pass to Fort Bridger remained open. The role of Fort Bridger would be to secure the safety of transports and emigrant trains for much of the 1860s. Some of the wagon trains they provided security for would be Mormon emigrant trains bound for Salt Lake.

At the onset of the Civil War, Fort Bridger troops moved east leaving only a skeleton corps to guard the fort, complicating the situation at the fort in 1861. Judge William A Carter, probate judge, camp sutler, and veteran of the Seminole war in Florida, raised a volunteer company numbering 40 to 60 men to guard not only the post but the Overland Trail (Ellison 1992: 32-33). Not until December 1862 would relief arrive. Captain M.G. Lewis with Company I, Third California Infantry Volunteers, assumed command of the post. From then until the end of the Civil War, the post would be garrisoned by various companies of California and Nevada

volunteers (Gowans and Campbell 1975; Gowans and Campbell 1976; Ellison 1992:32-33; Johnston 1997).

Fort Bridger, between 1867 and 1868, also had to provide troops to protect the construction and survey crews along the Union Pacific Railroad. Lieutenant Colonel H. A. Morrow and the 36th Infantry at the post had responsibility for protecting South Pass and the Overland mails as well as the railroad. The command extended 200 miles east of Green River north to the Wind River Mountains (Ellison 1992: 48). Overlapping jurisdiction with Fort Halleck, Camp Douglas in Utah, and eventually Fort Steele on the North Platte River, did not lessen the burden on the patrols from Fort Bridger. In essence, an evolution had taken place. The military made Fort Bridger not only a magnet attracting travelers but a hub where troops radiated outwards toward all of southwestern Wyoming and northeastern Utah.

In 1868, the Treaty of Fort Bridger placed the Shoshoni on the Wind River Reservation in central Wyoming. On paper, it ended the Shoshoni's claim to southwestern Wyoming; in reality the Shoshoni continued to roam freely throughout the region well into the twentieth century. Fort Bridger did serve as a spot where the Shoshoni came to camp and trade well after the 1868 treaty. The Shoshoni camped near the old Mormon compound and continued in the role they played since the early 1800s. They traded with emigrants and settlers in the area. It is not known when the trade ended at Bridger. The archaeological evidence suggests it continued into the 1880s. In 1890, when Fort Bridger was abandoned as a military post, the Shoshoni seemingly stopped visiting the area. They did, however, continue to travel through the area on the way to the Unita Mountains well into the 1900s.

METHODOLOGY

Test excavations along the interior of the Commissary Building immediately south of the standing section of the Mormon Wall were conducted to determine the nature and extent of cultural deposits beneath the Commissary floor. This was done to mitigate adverse impacts resulting from the placement of the concrete footing along the base of the Mormon Wall. Four test units were excavated along the Mormon Wall (Figure 2 and 3). These test units were labeled Test Units 1, 2, 3, and 4, with Test Unit

1 being the easternmost and Test Unit 4 the westernmost. The test units extended one meter southward from the south edge of the Mormon Wall and were located between three concrete piers which are currently supporting the wall. The size and placement of the test units was determined by the positioning of these three piers. Test Units 1-3 are located between the eastern and central pier. Each unit is 1 x 1 m in size. Test Unit 4 is located between the central and the western pier. This unit is slightly larger than the other three test units, being 1.5 x 1 m (Figures 4 and 5).

The method of excavation followed standard archaeological procedures. The uppermost sediment layer, which consisted of wall fall in the form of small sandstone slabs, was removed. Below the rock level, the units were excavated in natural levels. The fill from each level was screened through 1/8 inch hardware mesh. Artifacts from each level were bagged separately and assigned a field specimen (FS) number. Excavations were terminated at 40 cm bpgs for three reasons. First, this depth was below the level of the cultural horizon. Secondly, this was the depth required for the placement of the concrete footing. Lastly, the bottom of the test units were at or below the base of the Mormon Wall and further excavations could have resulted in the wall being undermined and damaged.

STRATIGRAPHY

The soil stratigraphy within the test excavation units shows a considerable amount of turbidity as the result of earlier earth disturbing activities along the Mormon Wall. These ground disturbing activities began in the 1930s with the placement of concrete and stone footings by the Civilian Conservation Corp. Additional enlarged piers were added at later dates. This has resulted in a considerable mixing of sediments and artifacts in the area excavated.

Two distinct layers were encountered in the course of excavation containing cultural material. The depths listed reflect depths below present ground surface (bpgs).

Level 1: 0-25 cm bpgs

This level consists of loosely compacted, fine-grained, sandy clay. The soil is poorly sorted with numerous rock fragments and cobbles. The top of this level is a layer of sandstone slabs representing wall fall from the walls of the Commissary Building.

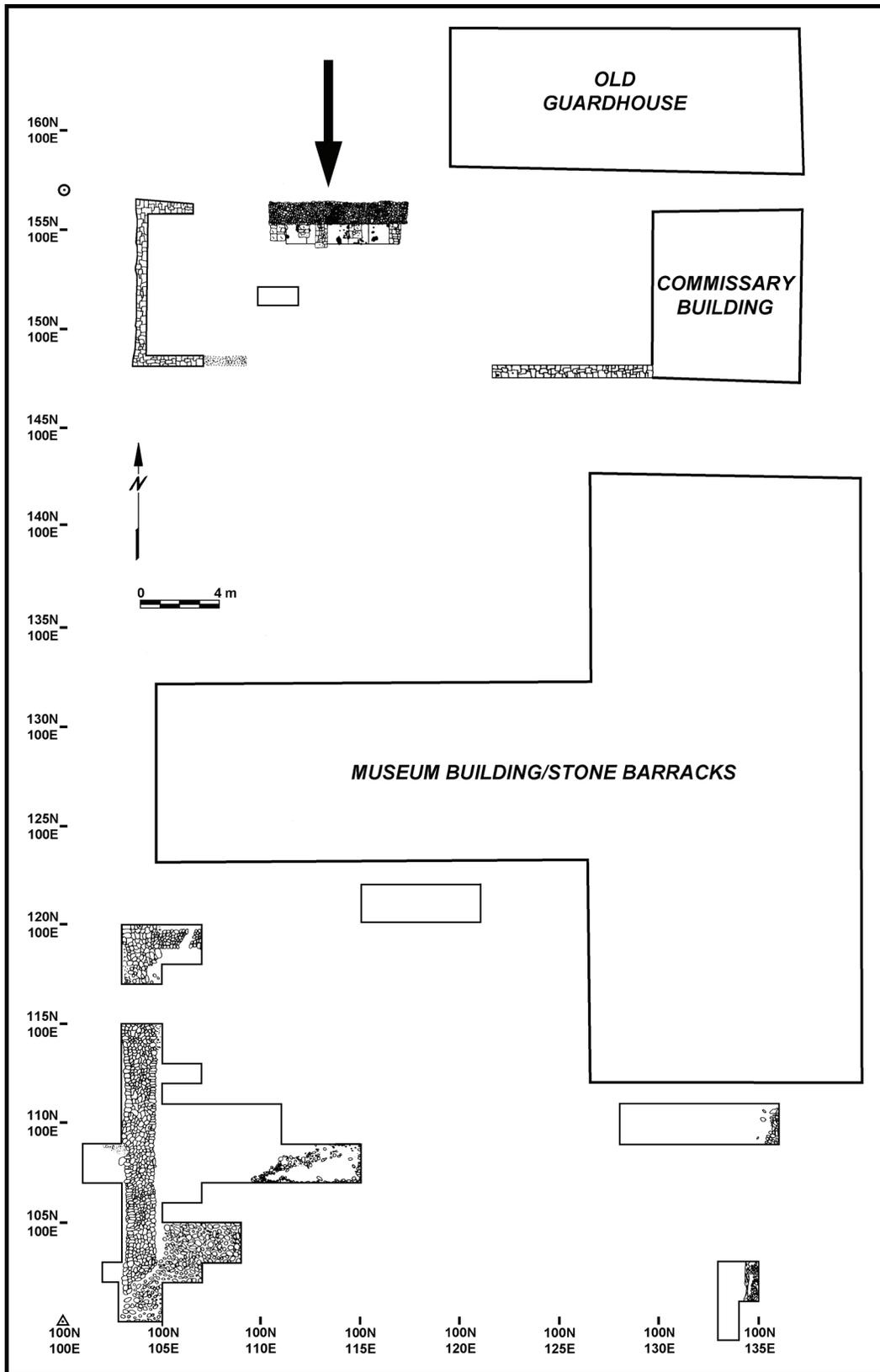


Figure 2: Location of barracks (1888) in the center in relation to our excavation units. Arrow points to 1989 excavation block. All but two units exhibit stone in excavation blocks.

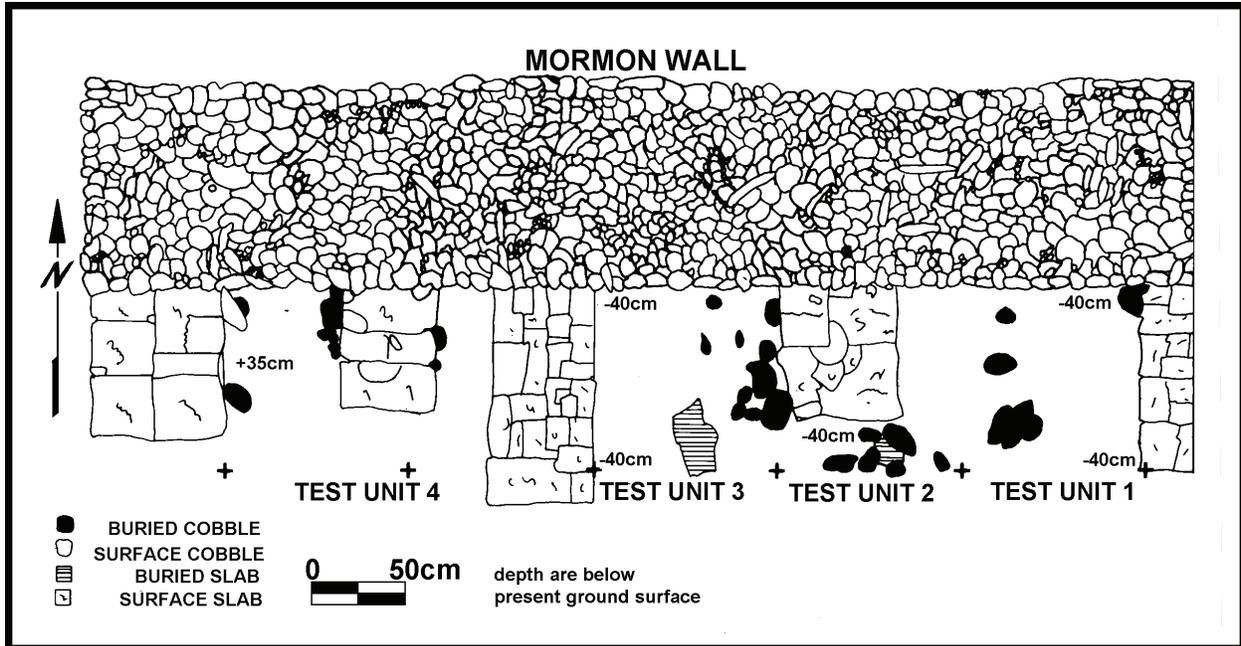


Figure 3: Location of Test Units 1-4. Test units run from right to left.



Figure 4: From right to left, test units 1, 2 and 3, facing northwest.

These slabs were found throughout this soil layer. Cobbles from the Mormon Wall were also found in this layer. This layer shows the greatest amount of mixing with wall fall, mortar, and historic and

modern artifacts throughout but the level is least compacted around the concrete footings. Mixing was noted throughout all the test units.



Figure 5: Test Unit 3 illustrates stratigraphy under possible historic supports.

Level 2: 25-40 cm bpgs

Level 2 consists of dark brown, moderately compacted, fine-grained sandy clay, moderate to well-sorted with much lesser amounts of wall fall or other rocks or pebbles. This level showed much less evidence of mixing with no modern artifacts associated with historic artifacts. Artifacts noted in this level were associated with the U.S. Army occupation, including a 45-70 Springfield rifle cartridge which dated to 1884 and numerous flattened lead balls, reflecting use of the Commissary Building as a target range. Excavation of this layer revealed the base of the Mormon Wall. The wall consisted of cobbles set into mortar. Concrete used to mend and strengthen those portions of the wall above ground level is absent from the portion of the wall below the present ground surface. The wall was found to be resting on a layer of light buff colored fine-grained sand which had been leveled before placement of the wall. This sand layer did not extend south of the wall into the test units.

Further excavation into Level 2 was halted because of absence of artifacts and the potential danger of undermining and causing damage to the Mormon Wall.

RESULTS

STRUCTURAL REMAINS

Excavations along the standing portions of the Mormon Wall revealed structural details concerning wall construction and subsequent modifications of support footings. Excavations in Test Units 1, 2, 3, and 4 revealed subsurface portions of the Mormon Wall down to its base showing addition of little or no modern cement. Modern cement patching was more prevalent in the upper sections of the wall.

The base of the Mormon Wall was found at 40 cm bpgs. The cobble wall rested on a foundation layer of loose to moderately compact light tan colored sand (Figure 6). This sand layer had been leveled across its top and the lower layer of cobbles had been laid directly on top of it. Thickness of the layer was not determined because further excavation could have led to undermining the wall which could have resulted in structural weakening. The sand layer did not extend southward beyond the edge of the wall. At least along the south side of the wall, the sand layer was found only directly under the cobble wall.

Besides the wall itself, structural remains in the form of support footings were found along the south



Figure 6: Sandy matrix on which support stones and wall rest, facing east.

side of the Mormon Wall. Since the Mormon Wall slopes southward, supports had been necessary to keep the wall from collapsing. Five stone and cement footings were found in the area of excavations. Three of these footings or piers extend above ground reaching almost to the crest of the wall. The other two footings do not extend above ground level. The three largest piers provide the greatest amount of support to the wall. The first of these three piers is located at the east end of the wall immediately east of Test Unit 1. The second pier is located west of the center of the standing wall segment. This pier separates Test Unit 3 and Test Unit 4. The final pier

is located at the west end of the wall segment immediately west of Test Unit 4. These three piers range in height from ca. 1.5 m to 2 m. All three consist of tabular slabs of sandstone laid flat and bonded together with cement. The center pier is the largest and best constructed of the three. This pier is more regular in form and appearance than the other two. The central pier has relatively straight and flat sides which angle evenly toward the top. The two piers at the ends of the standing wall segment are much less regular in form and appear to be more hurried in construction. Edges and facies are irregular and uneven. The west end of the Mormon Wall is pulling

away from the westernmost pier with a gap between three and five cm present between the footing and the cobble wall (Figure 7).

Besides the three large piers found above ground, two other smaller footings were also found during the test excavations. One of these footings was found in Test Unit 2 (Figure 6) and the second was found in Test Unit 4 (Figure 7). The tops of both of these footings were covered with wall fall and aeolian duff and their presence was not obvious until the overburden was removed. Excavation revealed the full extent of these two footings, ranging from 50 to 65 cm in length and width with an approximate height of 40 cm. Each was constructed of roughly shaped slabs of sandstone and cobbles from the Mormon Wall bonded together with mortar and cement. In both cases, the footings rested on a layer of rock cobbles. The sandstone slabs were laid on top of these cobbles and further cobbles were mixed in with the slabs. Additional cobbles were found surrounding the footings at 40 cm bgs level. It is apparent these two footings were made from locally available materials. The cobbles were very likely wall fall from nearby portions of the Mormon Wall and the slabs were likely taken from

either the Commissary Building itself or from one of the surrounding buildings. It is not certain when these footings were placed against the standing Mormon Wall segment. They do, however, appear to be intrusive into the cultural layer. Considerable mixing of historic and modern artifacts was noted in all four test units. This mixing of artifacts is very likely the result of excavations carried out to place these two footings.

ARTIFACTS

Sixteen hundred (1600) artifacts and four faunal specimens were recovered from excavations along the edge of the Mormon Wall. Because of previous ground disturbing activities associated with the placement of stone and concrete footings along the base of the wall, the cultural horizon has been considerably disturbed. As a result, separating the post-1857 army occupation from the pre-1857 Bridger and Mormon occupations was not possible. Modern artifacts, including galvanized nails and fragments of a Dr. Pepper soda pop bottle were found in direct association with nineteenth century artifacts representing the army's use of the area as a Commissary.

Of the 1600 artifacts recovered during excava-

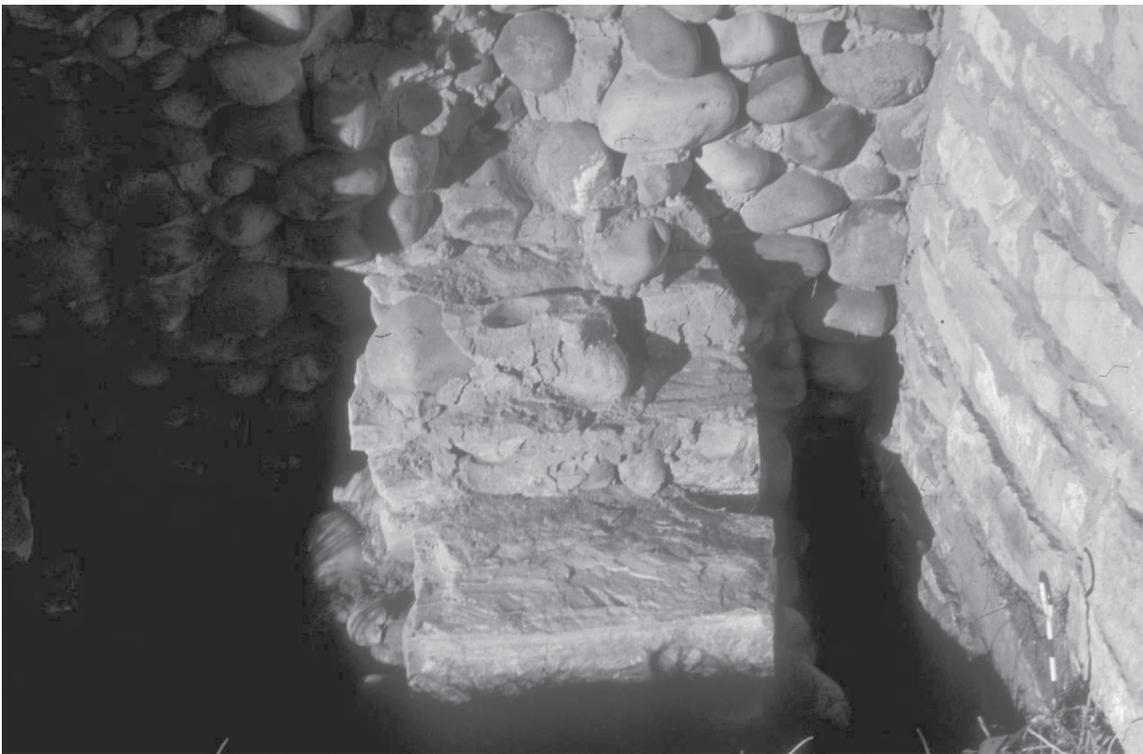


Figure 7: Historic and modern support evident in 1989, facing north.

tion, 106 (7.0%) were metal, consisting of 63 iron objects, 42 lead objects, and one brass object. Another eight artifacts (0.5%) were ceramic and nine (0.5%) were building materials such as brick, stone, and mortar. The remaining 1468 artifacts (92%) were glass: 1431 window glass fragments and 46 bottle or melted glass fragments (Tables 2 and 3).

DIAGNOSTIC ARTIFACTS

Only one diagnostic artifact was found during excavation. This is a Government Issue 45-70 caliber rifle cartridge. This brass center-fire cartridge was found in Level 2 of Test Unit 3. Because the primer was intact, it is evident the cartridge had not been fired, however, the lead bullet was not present. Corrosion around the lip of the cartridge could have led to the bullet coming loose (David Darlington, personal communication, 1990). This would have resulted in the cartridge being unusable and, hence, likely discarded.

The 45-70 cartridges were introduced in 1873 for the Army’s Springfield rifle and carbine. This rifle remained the army’s standard issue field piece for the next 19 years until it was replaced by the 30-40 Krag rifle in 1892. However, numerous army

and state militia units continued to use the Springfield rifle well into the twentieth century (Barnes 1980:81).

The date range of the 45-70 cartridges of 1873 to 1892 covers much of the army occupation of Fort Bridger. However, a further narrowing of this span is possible. The cartridge has a recognizable headstamp which identifies the manufacturer and the date during which it was produced. The headstamp consists of the letter R, the letter F, and the numbers 4 and 84. The letter R refers to “rifle” (compared to “C” being carbine) (White and Munhall 1963:170). The second headstamp letter is “F,” denoting the Frankford Arsenal, Virginia as the place of origin. This run of shells was produced in April of 1884 as is indicated by the numbers 4 and 84.

FUNCTIONAL CATEGORIES

Fifteen of the collected artifacts are modern and, therefore, post-date the military occupation of the site. These modern artifacts consist of eight galvanized wire nails, probably associated with the construction of the wooden roof which now shelters the remaining portion of the Mormon Wall. The remaining seven modern artifacts consist of fragments

Table 2: Functional Categories for Artifacts Recovered During Testing of Mormon Wall.

	TEST UNIT 1	TEST UNIT 2	TEST UNIT 3	TEST UNIT 4	SURFACE	TOTAL
PERSONAL ITEMS						
medicine bottles	6	--	3	--	--	9
lead stopper	--	--	--	1	--	1
FOOD STORAGE AND FOOD SERVICE						
bottle glass	6	2	5	12	--	25
crockery	4	2	1	--	--	7
tableware	--	--	--	--	1	1
modern bottle	--	6	1	--	--	7
can fragment	--	--	1	--	--	1
GENERAL TOOLS AND EQUIPMENT						
cut nails	3	--	7	--	--	10
wire nails	2	7	1	6	--	16
cartridge	--	--	1	--	--	1
target balls	22	3	16	--	--	41
metal fragments	7	2	25	--	--	34
Building Materials						
melted glass	2	--	1	1	--	4
handle	1	--	--	--	--	1
iron object	1	--	--	--	--	1
FAUNAL REMAINS						
	1	--	1	2	--	4
TOTAL	56	25	68	23	1	175

Table 3: Intact Artifact Dimensions.

CATALOG NUMBER	ARTIFACT	LENGTH	WIDTH	THICKNESS	DIAMETER
FBr1.159	5 d wire nail	46 mm	2 mm	6 mm	--
FBr1.60	4 intact cut nails	68 mm	6 mm	8 mm	--
		68 mm	5 mm	8 mm	--
		40 mm	4 mm	7 mm	--
		36 mm	3 mm	5 x 9 mm	--
FBr1.168	3 intact wire nails	34 mm	3 mm	5 mm	--
		35 mm	3 mm	5 mm	--
		33 mm	2 mm	4 mm	--
FBr1.169	4 intact galvanized wire nails	46 mm	2 mm	5 mm	--
		45 mm	2 mm	5 mm	--
		32 mm	2 mm	5 mm	--
		33 mm	2 mm	5 mm	--
FBr1.177	1 intact cut nail	65 mm	5 x 7 mm	9 mm	--
FBr1.178	1 intact wire nail	34 mm	4 mm	6 mm	--
FBr1.179	1 intact galvanized wire nail	32 mm	2 mm	5 mm	--
FBr1.181	45-70 rifle cartridge	54 mm	--	--	13 mm
FBr1.196	2 intact nails	33 mm	4 mm	6 mm	--
		34 mm	4 mm	6 mm	--
FBr1.197	2 intact wire nails	34 mm	4 mm	6 mm	--
		34 mm	4 mm	6 mm	--
FBr1.199	lead stopper	--	--	5 mm	8.5 mm

of a Dr. Pepper soda pop bottle. The fragments are clear aqua tinted, glass shards from the body, neck, and finish of the bottle. Several body fragments have portions of the Dr. Pepper label painted on them. This painted label is red and white in color and contains the words Dr. Pepper and the number 10. The bottle fragments likely date to the second half of the twentieth century and are, therefore, not early historic in nature.

METAL

One hundred and six (106) metal artifacts were recovered from the test excavations. This represents 62% of the 169 non-glass and bone artifacts found during testing and consist of 55 iron artifacts, 42 lead artifacts, and one brass artifact. Historic metal artifacts found during excavation can be grouped into three functional categories. The first of these consist of food storage artifacts used to contain food or drink until such time as those items are required. Only one metal food storage artifact was found during excavation. This is a small metal can body fragment. It is not possible to determine if the fragment represents a portion of a hole-in-top or sanitary can.

The second functional category to include metal artifacts is personal individual items. Again, only one metal personal item was noted; a small lead stopper found in Test Unit 4, Level 1. The stopper is

a small disk-shaped cap which would have fit over the mouth of a lead tube which would likely have contained some type of ointment.

The third group of metal artifacts is tools and equipment. This category contains the largest number of metal artifacts collected at the site: 104. The category of general tools and equipment can be further divided into smaller groups, including fasteners, ammunition, and metal fragments.

Fasteners

Twenty-six iron fasteners were collected from the four test units. This total includes 10 cut nails and 16 wire nails (Table 4). The 16 wire nails include eight non-galvanized nails and eight galvanized nails.

Forty-two percent of the nails are 3d in size. Another 31% are divided almost equally between 4d, 5d, and 8d sizes. The remaining 27% consist of nail fragments. While the cut nails represent the nineteenth century occupation of the site, the wire nails are more problematic. The abandonment of Fort Bridger by the military in 1890 would have preceded the widespread use of wire nails. Subsequent civilian use of the post could have been responsible for the almost equal number of non-galvanized wire nails to cut nails. However, because all six intact non-galvanized wire nails are 3d in size, it is pos-

Table 4: Size Grades For Wire and Nails Found in Testing.

SIZE	WIRE NAILS	GALVANIZED NAILS	CUT NAILS	TOTAL
2d	--	--	--	0
3d	6	5	--	11
4d	--	--	2	2
5d	--	3	--	3
6d	--	--	--	0
7d	--	--	--	0
8d	--	--	3	3
9d	--	--	--	0
10d	--	--	--	0
fragments	2	--	5	7
TOTAL	8	8	10	26

sible they are poorly preserved representatives of the nails used to construct the modern wooden shelter covering the wall. The wire nails, therefore, may all be modern in nature and represent twentieth century restoration activities. The cut nails found in excavation do represent the nineteenth century occupation of the site. Cut nails were the predominant type of nail produced in the 1800s. In the 1890s, cut nails were rapidly superseded by wire nails, however, with the abandonment of the post by the army in 1890, their use of wire nails would at best have been very limited. While cut nails would have been used during the Bridger and Mormon occupations of the site, the lack of any other type of artifact which could be confidently dated to the 1840s or 1850s makes it appear much more likely the nails represent the army occupation.

Ammunition

Forty-two pieces of ammunition were recovered from the test excavations. This includes the brass 45-70 shell casing discussed above.

Besides the shell casing, 41 flattened lead balls were also recovered reflecting use of the Commissary Building as a target range (see Gardner et al. 1985a). Test excavations in 1984 within the walls of the Commissary Building uncovered a large number of these flattened lead balls, particularly in Test Unit 0N/10W. The authors speculated the target was located in the general vicinity of the test unit (Gardner et al. 1985c:34). The flattened lead balls were found in the easternmost test units. #1, 2, 3, located three to five m northwest of Unit

0N/10W. While the number of flattened lead balls found during the 1989 excavations is roughly 1/3 of the number found in the 1984 test unit 0N/10W, the 1989 total is considerably greater than the number of flattened lead balls found in the other 1984 test units. Flattened lead balls in the 1989 test units are in closest proximity to the 1984 Test Unit 0N/10W adding further support for the target being placed in the vicinity of Unit 0N/10W.

Metal Fragments

The final groupings of metal objects are miscellaneous fragments so broken or fragmented identification of function is difficult. Identification is further hampered because most of these 36 specimens are badly corroded or encrusted with coatings of iron oxide making a determination of their original shape difficult. Twenty-five fragments were found in Test Unit 3, nine were found in Test Unit 1, and two were recovered from Test Unit 2. Thirty-four were too badly corroded or encrusted with iron oxide deposits to be identified. The objects tend to be rod- or bar-shaped and may be fastener fragments; either nails, spikes, or bolts. The final two metal fragments, both from Test Unit 1, are more complicated. The first is an iron sphere roughly 30 mm in diameter. Two iron rods extend outward from the cylinder at right angles to each other. The object is solid iron, although one of the rods appears to pass through the sphere and extend slightly outward on the opposite side. The function of this object could not be determined.

The final metal fragment appears to be a handle from some type of tool or implement. It is an elongated oval resembling the handle of a modern cast iron frying pan or skillet. At one end of the handle is a flat iron square. The opposite end is rounded with an elongated oval hole through the widest portion.

BUILDING MATERIAL

Nine building material fragments were found including six pieces of mortar, two small brick fragments, and one small sandstone slab. Four of the six mortar fragments were found in Test Unit 3, and two were found in Test Unit 2. The mortar samples collected consist of two types. One is composed of a coarse grained mortar with small pieces of sandstone mixed in. The two examples of this type of mortar consist of several small blobs fused together. They may represent waste material from one of the Mormon Wall restoration projects. The second type of mortar is a much finer-grained mortar

with small pieces of grit or sand or, in one instance, charcoal flecks mixed in. Of the four samples which make up this grouping, one bears the impression of a rock cable, one is flattened as though it were pressed against a wooden board and a third has a patch of dark reddish brown pigment on one face. These fragments likely spalled off the wall itself.

Two small brick fragments were also found in excavation of Test Unit 3. Finally, one small slab of sandstone was collected from Test Unit 2. The stone was of the same type as these found in the wall remains at the west end of the Commissary Building. This rock fragment has a patch of the same type of reddish brown pigment found on the mortar fragment.

CERAMICS

Eight ceramic sherds were recovered and can be grouped together as food storage and food service artifacts. Seven were found during the test excavations and one was found on the surface.

The seven sherds found in excavation are all hard paste earthenware body fragments from one or more crocks. All have the same type of glaze, a light tan glaze on the exterior and a dark brown glaze with black speckling on the interior. For this reason, it seems likely these fragments represent one crock. No decorations, inscriptions, or makers marks are present on any of the sherds.

The eighth sherd was found on the surface, approximately halfway along the west wall of the reconstructed Bridger Trading Post. It is a soft paste earthenware plate fragment consisting of a portion of the rim and body. The fragment’s interior surface is covered with a blue transfer design. The design consists of a vase which is surrounded on three sides by a string of flowering vines. Bands of curving lines run along the rim and along the point where the body merges into the interior of the base. The sherd does not have a potter’s mark present on any part of the exterior surface. Without a maker’s mark, the sherd cannot be accurately dated; however, the design motif resembles those of the latter half of the nineteenth century.

GLASS

Bottle Glass

Forty-six bottle glass fragments were recovered during the test excavations (Table 5). These bottle fragments found were small in size, making the identification of functional categories difficult.

Table 5: Color of Glass Fragments Found During Testing Along Mormon Wall at Fort Bridger Commissary.

COLOR	TEST UNIT 1	TEST UNIT 2	TEST UNIT 3	TEST UNIT 4	TOTAL
modern clear	--	6	1	--	7
clear	--	--	3	5	8
purple	4	1	2	3	10
aqua	8	1	1	4	14
brown	--	--	2	--	2
green	--	--	--	1	1
melted	2	--	1	1	4
TOTAL	14	8	10	14	46

Fifteen of the 46 fragments (33%) consisted of body fragments too small to be identified as to function. The remaining 31 glass fragments could be divided into three functional categories. These include food storage bottles, medicine bottles, and melted glass. The food storage bottle category consists of three types of bottles: modern beverage bottles, historic beverage bottles, and a wide mouth storage jar. The medicine bottle category is represented by paneled bottle fragments, and the melted glass is represented by four roughly circular globules (Table 6). Because the bottle glass fragments are relatively small and are predominantly body sherds, it is difficult to arrive at an accurate vessel count.

At least three vessels are present based on rim sherds. The first of these vessels is a wide mouth purple amethyst glass storage bottle. One finish fragment and two body fragments were found in Test Units 1, 2, and 3. No other purple amethyst glass fragments could be refitted. No maker’s marks or other identifying inscriptions were found which might provide additional information concerning when the bottle was made or its function. Purple amethyst glass was produced from ca. 1830 to ca. 1917. This range of dates extends well beyond the earliest and latest dates for the Bridger, Mormon, and Army occupation of the site.

The second identifiable vessel is a small clear glass medicine bottle represented by a finish and most of the neck, found in Test Unit 3. The finish consisted of a flat or patent finish which is often associated with medicine bottles. The vertical seam on the bottle neck does not extend to the lip of the bottle, indicating it was mold-blown rather than machine made. This bottle likely pre-dates 1904 when

Table 6: Functional Categories of Bottle Fragments Found During Testing Along Mormon wall at Fort Bridger.

CATEGORY	TEST UNIT 1	TEST UNIT 2	TEST UNIT 3	TEST UNIT 4	TOTAL
FOOD STORAGE					
modern beverage	--	6	1	--	7
historic beverage	--	--	3	5	8
storage jar	1	1	1	--	3
PERSONAL					
medicine	6	--	3	--	9
melted glass	2	--	1	1	4
UNKNOWN FRAGMENTS	5	1	1	8	15
TOTAL	14	8	10	14	46

bottle making machines began to see wide spread use. Besides this neck and finish fragment, eight paneled bottle body fragments were found during testing. It was not possible to fit any of these fragments together so the number of medicine bottles represented by these shards cannot be determined.

The final bottle body finish fragments recovered belong to a modern Dr. Pepper soda pop bottle. One fragment consists of a portion of a crown-top finish. Six other fragments of this bottle are also present; however, all seven fragments make up only a small portion of the bottle. The bottle post-dates army occupation at the site.

Besides these identifiable vessel fragments, other bottle body fragments were recovered. Two small brown glass fragments were found in Test Unit 3 and represent one or more alcoholic beverage bottles. Lastly, a small green glass fragment, likely a portion of a wine bottle, was found in Test Unit 4.

Melted Glass

Four small lumps of melted glass were also found during test excavations; two in Test Unit 1, and one each in Test Units 3 and 4. These lumps consist of vitrified coarse-grained sand with a coating of light green glass over portions of the surface. The layer of glass does not cover the entire surface of any of the four lumps. It is not known from what activities these melted glass lumps resulted. Lumps of glass slag have been found in association with early nineteenth century blacksmith shops (Gardner, Johnson, and Vlcek 1991), however, no other traces of a blacksmith shop were found during any excavations of the Commissary Building.

Window Glass

One thousand, four hundred and thirty-one (1431) fragments of window glass were collected. One fragment had a considerable amount of flaking along one edge but because the structure was used as a barn, this flaking may have been from livestock trampling.

Three hundred and sixty fragments (25% of the complete assemblage) were measured for thickness. Five fragments measured 1.5 mm in thickness, 192 measured 2 mm, 118 measured 2.5 mm, 38 measured 3 mm, and 7 measured 3.5 mm in thickness. These figures are similar to measurements for window glass found in earlier excavations at the Commissary Building (Gardner et al. 1985c).

FAUNAL REMAINS

Four bone fragments were recovered during the excavations along the interior of the Commissary Building (Table 7). It is significant to note all four fragments were artiodactyl and three of the four either deer or elk. None represent domesticated animals. One specimen (elk vertebra fragment) exhibits butchering saw marks. Butchering of wild game took place in or near the Commissary Building at one time. However, soil mixing by previous efforts to stabilize the Mormon Wall makes it difficult to determine when these butchering activities took place.

NEW STRATIGRAPHIC CONTEXT

As the result of the archaeological excavations spanning nearly 30 years, we have gained insights into the nature of the cultural deposits at Fort

Table 7: Faunal Remains Found During Testing Along Mormon Wall at Fort Bridger.

SPECIMEN NUMBER	UNIT	CULTURAL COMPONENT		ELEMENT	AGE	CLASS	MODIFICATION			
		LEVEL	COMPONENT				WEATHER	BURN	OTHER	WEIGHT
AnFBr1.15	4	1	historic	premolar, 2nd or 3rd	v. old	Cervus/Odocoileus	2	0	N/A	3.5 g
AnFBr1.16	4	1	historic	distal radius fragment	fetal	Odocoileus spp.	3-Feb	0	N/A	0.7 g
AnFBr1.17	3	2	historic	lumbar vertebra fragment	unknown	medium/large mammal	2	0	N/A	1.8 g
AnFBr1.18	1	2	historic vertebrate	dorsal arch of unknown	young adult	Cervus elaphus	2	0	CM	23.4 g

Bridger. There are eight distinct cultural occupation episodes at Fort Bridger. These were initially identified in the large block excavation units behind the Museum.

From 1990 to 2004, we divided the cultural horizons into five distinct strata within the historic Mormon Compound. Level 1 dated from 1890 to the present. Level 2 was the Military component and dated from 1857 to 1890. We did split this level into two horizons 2a (1857-1890) and 2b (1865-1890). There are co-mingling of artifacts from 1857 to 1890 in both horizons but there are some structural features dating to 1857-1865 and others clearly post-date 1865 (specifically a cobble walkway, the present museum built in 1888, and an outhouse). Level 3 is the Mormon occupation horizon (1855-1857). The level is clearly marked by the burning of the fort in 1857 but it also contains distinct structural foundations and the Mormon Wall (Figures 8, 9, 10 and 11). Level 4 is the Bridger Trading Post phase (1843-1857). Level 5 is a natural subsoil. This subsoil was cobble, gravel, or fine sand strata or a mixed matrix of all three: the defining characteristic was it was culturally sterile.

This stratigraphic system could be applied across the site and was abbreviated as the Modern, Milk Barn, Military, Mormon, and Mountain Man. Because the strata can be identified across the site in various areas, a definition of the bench mark levels needs to be given here, and then redefined. The bench mark levels before 2008 were defined in generalizations as follows (see Gardner 1990).

Level 1 is the uppermost strata associated with the post-military occupation of Fort Bridger. This stratum dates from 1890 to the present. It usually ranges in depth from the present ground surface to 15 cm to 20 cm bpgs. A layer of manure connected with the "milk barn" era, ca. 1890-1930 was more often than not encountered at five cm to ten cm below the present ground surface and extended near or to the bottom of Level 1. In color, the soil was dark brown aeolian sand with a good concentration of organic material in the matrix. Native American artifacts (especially lithic debris) were encountered in Level 1, but is thought to be either re-deposited materials or lost by



Figure 8: Bridger Trading Post and Mormon Compound excavations 1993.

visitors attending the modern Fort Bridger Rendezvous. There is the outside chance that the lithic debris dating from 1890 to the early twentieth century were left by the Shoshoni and Utes who traveled through the area. This hypothesis may especially hold for a favored camping site west of the present Museum. The dominate debris in this level, however, is post-1890 manufactured items.

Level 2 is the strata associated with the military era occupation spanning 1857 to the abandonment of Fort Bridger in 1890. This stratum was subdivided into Level 2a and Level 2b. Level 2a contains cultural material dating from 1857-1880 while Level 2b seems to contain cultural material dating from ca. 1865-1890. Levels 2a and 2b range in depth of from 15 cm to 35 cm bpgs. The stratum is a mix of fine aeolian deposits and coarse sand with small to large cobble and angular limestone chip inclusions. In color it varies from light brown to cream color. The cream color is due to deteriorating limestone carried to the fort

for construction. Some flake lithic debris was encountered in this level.

Level 3 is represented by a layer of charcoal, burned daub, and dark sandy soil left from the burning of Fort Bridger by its Mormon garrison before abandoning the post in October 1857. Level 3 has been used to denote the Mormon occupation of Fort Bridger, which is typically dated as from 1855 to late 1857. It is located at a depth of between ca. 20 to 40 cm below present ground surface. It is almost black in color and contains charcoal, burned daub, and charred timber remains. Flake lithic debris, bifacial tools and ground stone were encountered in this level.

Level 4 is the earliest identifiable Euroamerican occupation of the site. Soils were deposited during the Bridger-Vasquez era of 1843 to 1855 and possibly the early Mormon occupation era as well. Level 4 is encountered below the Level 3 "burn layer" at 30 cm to 40 cm bpgs and continues downward to 50 cm to 65 cm bpgs. The soil is generally a medium to fine dark brown to



Figure 9: Profile of west facing wall inside Mormon Compound.

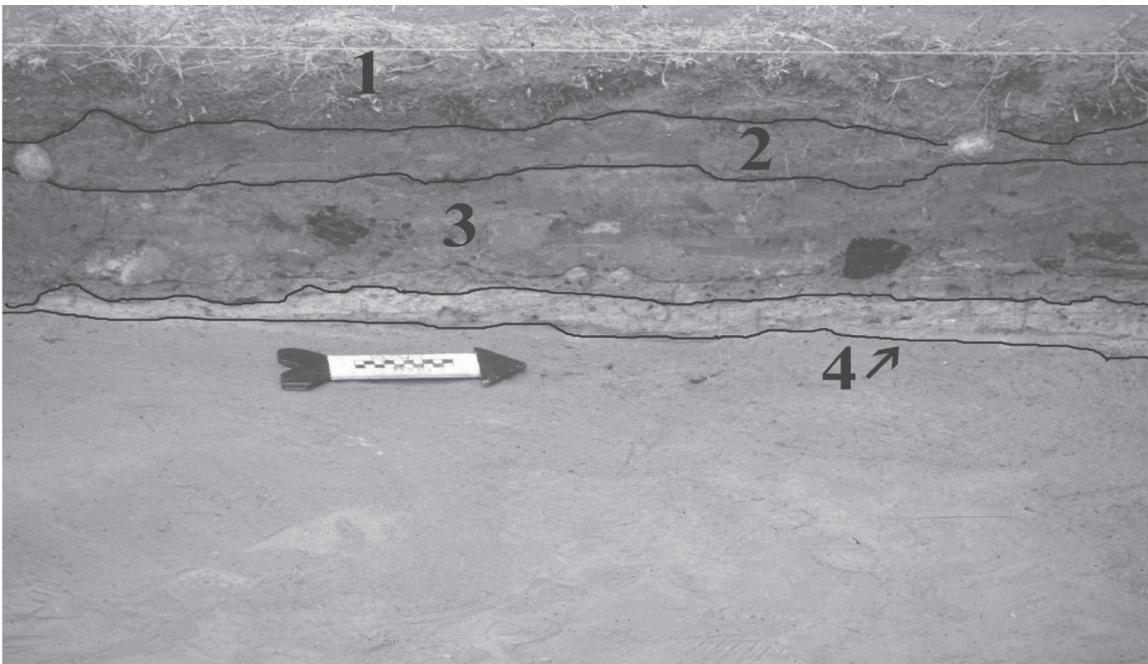


Figure 10: Profile showing 1990 level designations. Level 3 is Mormon burn level.

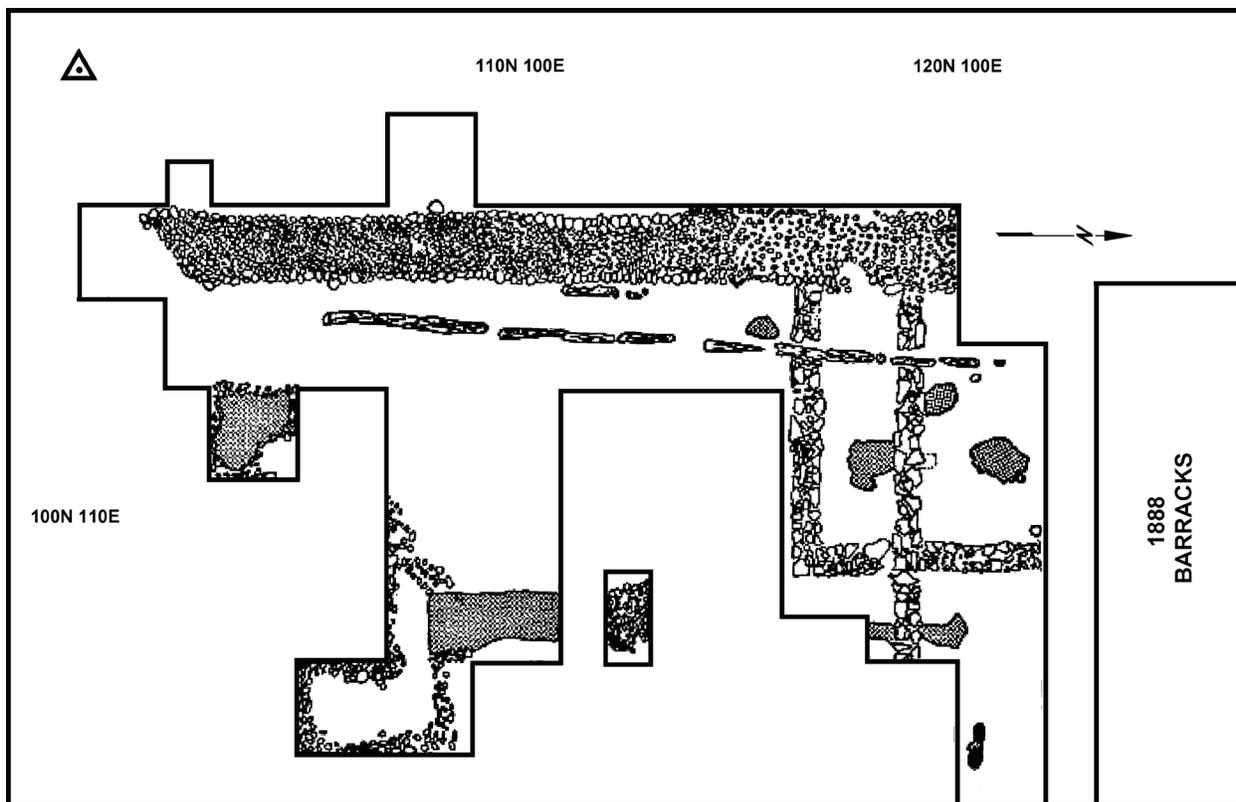


Figure 11: Extent of excavations along western Mormon Wall in 1995. All but feature to left center are associated with Bridger and Mormon occupation of site.

dark gray sand. Flake lithic debris, bifacial tools and ground stone were encountered primarily in this level. Some of the lithic debris may predate the Bridger-Vasquez era but it is difficult to tell. Lithic debris and bifacial tools were found in association with diagnostic historic debris that dates to the 1843-1855 occupation.

Level 5 was not assigned a cultural context due to its uniform lack of cultural material. It is a natural soil horizon. Level 5 was a deep layer of medium grain, well sorted, light brown alluvial sand extending from the bottom of Level 4 at 50 cm to 65 cm bpgs downward until reaching a layer of highly concentrated rock cobbles at from 170 cm to 190 cm bpgs. Some excavations early on in the project list cultural material from Level 5, but this appears to be Level 4 type material in some sort of Level 4 extension.

As the result of excavations conducted at the

Black and Orange Cabins and other Lincoln Highway Era features at the site (Lammers and Gardner 2007; Gardner and Lammers 2009), it became obvious level designations needed to be reevaluated and reclassified. These can be summarized as we now know them (see Table 8).

There are three distinct occupation horizons overlying the military level. The upper most is the modern tourist level, dating from 1928 (when Fort Bridger became property of the State of Wyoming) to the present. This tourist level extends from the surface to about 10 cm bpgs. The second is the Lincoln Highway Era level and is most prevalent on the east end of the site. This level dates to the arrival of cars in the area (ca. 1908) and extends to the 1960s. This level extends from the surface to about 20 cm bpgs. The third is “the Milkbarn” level and reflects use of the site as a dairy farm from about 1890 to ca. 1928. It is found from five to 15 cm bpgs. In keeping with the original classification system, the tourist level is 1a; the Lincoln Highway level 1b; and the Milkbarn Level 1c. There are other newly identified levels discussed after the Lincoln

Table 8: Strata Identified During Excavations at Fort Bridger. Most Upper Strata are Cultural Derived with Aeolian and Alluvial Materials Also Present.

LEVEL	SUB LEVEL	DATE	DEPTH CM BPGS	DESCRIPTION	1989 EXCAVATION LEVEL
1		1890-2010	0-20	Twentieth Century deposits	
	1a	1928 to present	0-10	Tourist Strata containing modern coins, trinkets, plastic, modern glass fragments, etc. The soil is aeolian in nature and contains grass roots in most excavation units.	Level 1
	1b	1908 to 1960s	0-20	Lincoln Highway Era materials are found in this level and are most prevalent near the Black and Orange Cabins, the New Commissary, and Quartermasters Warehouse north of modern US 30. The soils are aeolian in nature and contain roots throughout the strata. There are some river cobbles in the level probably in place due to frost heaving. The artifacts vary greatly but most date from 1920-1950. The level also exhibits debris from Civilian Conservation Corps and historic site management activities in the 1930s.	Level 1
	1c	1890-1928	5-15	"Milk barn" level. The horizon contains dung, baling wire, wire nails, barbed wire, and metal fragments. There is some aeolian and alluvial fill in the level.	Level 1
2		1857-1890	15 -40	The stratum is a medium to course grained sand with small to large cobbles and angular limestone chip inclusions. It is light brown to creamy white in color. The limestone chip inclusions are from military construction of several buildings in the immediate area.	Level 2
	2a	1857-1880		Artifacts primarily predate 1865.	
	2b	1865-1890		Artifacts post-date the Civil War.	
3		1855-1857	20 -40	This is a clearly defined burned area that resulted from the October 2, 1857 burning of the fort. It exhibits oxidized soils, burned daub with wood and stick impressions, and large charcoal fragments. Most artifacts exhibit the effects of this burn.	Excavation terminated at this level to insure wall stability.
4		1843-1855	30-65	This lies directly below the Level 3 "burn layer" at 30cm to 40 cm bpgs and continues downward to 50cm to 65cm bpgs. Soil was generally a medium to fine dark brown to dark gray sand. It was a well sorted fine grained alluvium with a gley underlying the strata. Gun flints, needles, ceramics, fragments of kettles, fish vertebrae, and gun parts were found in this level. Flake lithic debris, bifacial tools and ground stone were encountered primarily in this level.	
5		Pre 1843	30-70	This is actually an interface horizon between Levels 4 and 6. Like Level 4 it begins at about 30 to 40 cm bpgs but it can extend to as deep as 70 cm bpgs. Soil was generally a medium to fine grained dark brown sand mixed with small gravel fragments. We have found both small quantities of metal and flaked lithic debris in this level.	
6		Natural	50-190	The level is medium grain, well sorted, dark brown alluvial sand. It extends from the bottom of Level 5 at 50cm to 65cm bpgs downward until reaching a layer of highly concentrated rock cobbles at from 170cm to 190cm bpgs. Note: this primarily west of the Mormon Fortification.	

Highway Horizon (below).

Lincoln Highway Strata: 0 to 20 cm bpgs

In general, the matrix is a homogeneous, dark brown, medium grained sandy loam throughout the entire level extending from 0 to 20 cm bpgs (the depth varies). Clay content was determined to be in the 5% to 15% range with a high organic content. A few ($n = <5$) small rounded cobblestones were present in the matrix distributed in a random manner throughout the horizon. Matted grass roots were noted in the uppermost one to six cm and horizontally running tree roots (*Populus*) are evident. The uppermost six cm is a layer of tightly matted grass root material within dark brown, well sorted sand. Other than the grass roots, no intrusions or inclusions were encountered within this layer. Car parts, metal, ceramics, various bottle fragments, and children's toys have been recovered from this stratum.

Deeper Strata identified since the 1990's

New Level 5:30-70 cm bpgs

This is actually an interface horizon between Levels 4 and 6. Like Level 4, it begins at about 30 to 40 cm bpgs but can extend to as deep as 70 cm bpgs. Sediment was generally a medium to fine dark brown sand. Small quantities of metal and flaked lithic debris were found in this level.

New Level 6 Old Level 5:50-190 cm bpgs

Essentially this is a culturally sterile natural soil horizon. Eckerle (1994:4-5) described it as a "strong brown, massive silty sand," and noted it as alluvial deposit. The level was not assigned a cultural context because of its uniform lack of cultural material. Level 6 is a medium grain, well sorted, dark brown alluvial sand extending from the bottom of Level 5 at 50 to 65 cm bpgs downward to a layer of highly concentrated rock cobbles which are as deep as 190 cm bpgs.

CONCLUSIONS

In 1989, limited test excavations were conducted along the south side of the standing portion of the Mormon Wall (Figure 12) which formed the northern wall of the Fort Bridger Commissary Building (Figures 13 and 14). Excavations were conducted along the base of the Mormon Wall so a concrete footing could be placed to stabilize the standing Mormon Wall segment. Four test units (4.5 square meters) were excavated and extended through the cultural levels and excavations were

terminated when historic artifacts were no longer found. The area excavated was of sufficient size to contain the proposed concrete footings which are to be placed along the base of the Mormon Wall.

As a result of these test excavations, two previously unrecorded stone and cement footings were uncovered. One was located in Test Unit 2 and the other found in Test Unit 4. Both footings were constructed of sandstone slabs and rock cobbles. The rock cobbles were likely wall fall from other portions of the Mormon Wall. The sandstone/limestone slabs are similar to slabs used in the construction of the Commissary Building. These two footings were no more than 40 cm in height and did not extend above present ground surface. Excavations likely linked to the placement of these footings caused considerable disturbance within the area tested. This resulted in a mixing of artifacts through the upper 25 to 30 cm of the four excavation units. No modern artifacts were found in Level 2 which extended from 25 cm bpgs to 40 cm bpgs where excavations were terminated.

Evidence of the military occupation of the Commissary Building was found in the form of flattened lead balls and a rifle cartridge. Flattened lead balls indicative of the structure's use as a target range were also found in earlier excavations (Gardner et al. 1985c). The lead balls found along the base of the Mormon Wall are similar to those found in earlier excavations and also represent target practice in the Commissary Building.

The brass shell casing also represents the military occupation of the structure. This shell casing was a standard issue U.S. Army Springfield 45-70 cartridge. The headstamp indicates it was produced at the Frankford Arsenal in 1884, some six years before Fort Bridger was abandoned by the Army. Corrosion around the rim of the shell rendered the cartridge unusable. Whether this was the result of a flaw in manufacture or the result of long storage is not clear.

The building materials found in excavation represent another set of activities. These artifacts consist of nails, stone, and mortar and show the greatest amount of mixing between the historic and the modern. The nails are almost evenly divided between the post-army occupation wire nails and cut nails which were of an age which would make them contemporary with the Commissary Build-



Figure 12: 1984 Commissary excavations showing intact segments of Mormon wall on upper right.

ing. The wire nails may be related to the post-army occupation of the Commissary Building. However, these nails are similar in size and appearance to those used in the construction of the roofing which covers the standing portion of the Mormon Wall. Modern wire nails were likely lost or discarded during the construction of this roofing. Ground disturbing activities associated with the construction of the footings resulted in the mixing of these modern nails with the historic debris.

The remaining artifacts found, including metal and melted glass fragments, are of unknown function. The melted glass and vitrified sand may be

related to blacksmithing activities. Similar pieces of melted glass resulting from blacksmithing were found at Fort Bonneville which dated to the mid-1830s. The melted glass from Fort Bonneville, however, was of more uniform texture throughout. The glass from the Fort Bridger Commissary consisted of an outer layer of glass-like substance overlying vitrified sand. The differences in the composition of the two types of melted glass make the origin of the Fort Bridger samples uncertain. The glass slag could, however, be associated with a blacksmith shop inside the historic Mormon corral.

Of the artifacts found at Fort Bridger, none

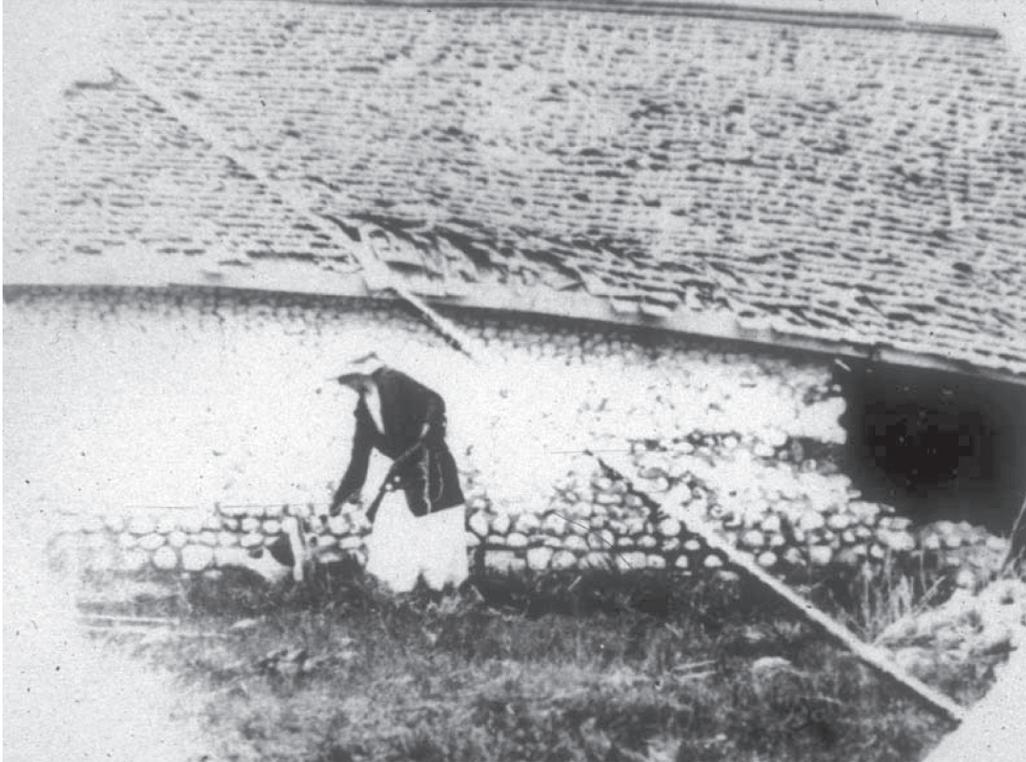


Figure 13: Photograph around turn of century showing much of Mormon Corral wall intact. Courtesy of Fort Bridger State Historic Site, Department of Wyoming State Parks and Cultural Resources.

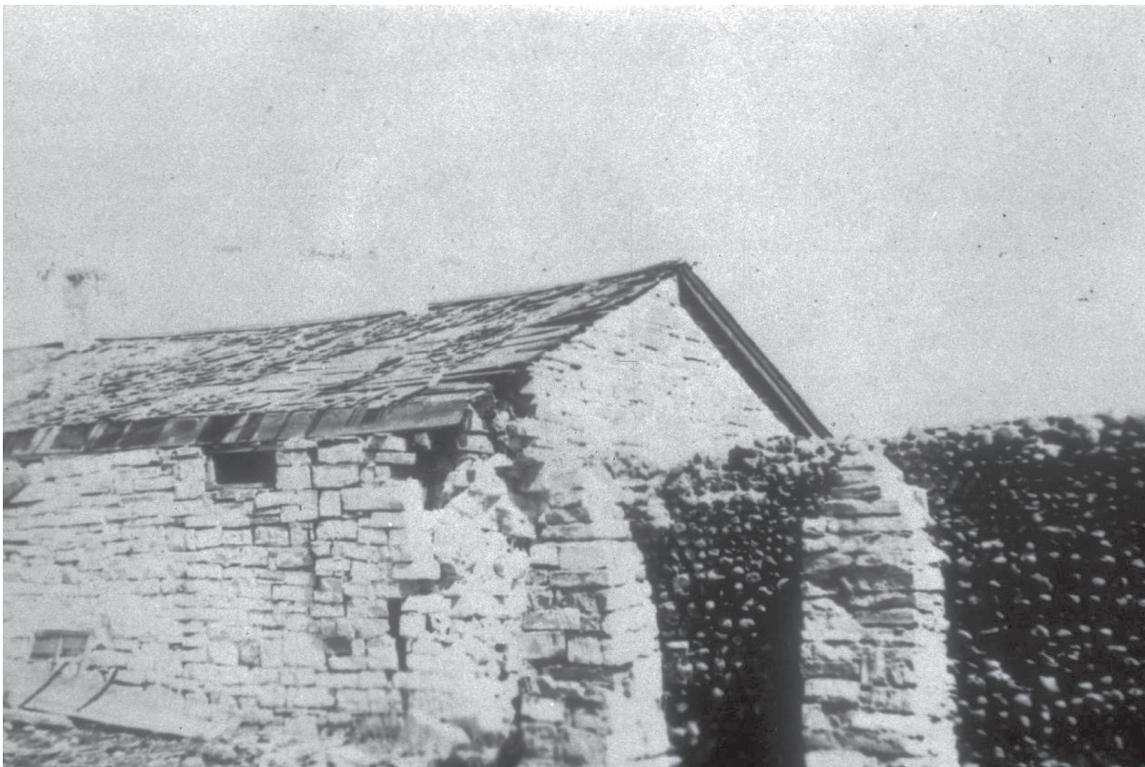


Figure 14: Photograph ca 1910 to 1920 showing wall leaning and pillar supports. Courtesy of Fort Bridger State Historic Site, Department of Wyoming State Parks and Cultural Resources.

could be definitely assigned to the Mormon or Bridger occupations. Those artifacts which could be identified on the basis of diagnostic traits belonged to the military or post-military occupations of the site. Other than the presence of the Mormon Wall itself, no trace of pre-1857 site occupation could be identified.

Test excavations along the south side of the Mormon Wall in the Commissary Building showed historic cultural remains were present from the surface to 40 cm bpgs, but these historic deposits have been impacted by subsequent ground disturbing activities associated with the placement of stone slab, cobble, and cement wall supports. The construction of these supports has resulted in a mixing of historic and modern artifacts to a depth of at least 25 cm bpgs. The fact these footings extend to the base of the Mormon Wall at a depth of ca. 40 cm bpgs suggests disturbance of the cultural horizon extends to that depth although no modern artifacts were found below 25 cm bpgs. Because this disturbance may extend throughout the cultural horizon in the area tested, the original context of all historic artifacts found in excavation is not completely certain.

Several general conclusions can be drawn based on these excavations. The main Mormon Wall to the south has been completely exposed via excavations. These excavations have been covered with a roof and viewing of the wall is possible. From 1990 to present, we excavated and then maintained a section of the main fortification wall on the southwest side of the historic compound. In the main fortification, as much as possible the stone was set on a natural gravel bar containing river cobbles nearly the same size as those used in the wall. This gravel bar would later provide the footers for the military's construction of their Barracks (the present museum) in 1888. The gravel bar is excellent foundation footer. The gravel helped insure structural stability. The problem is the buried gravel bar varies in depth below the surface and in some places it appears the Blacks Fork River deposited a deep sand bar (up to 2 meters) over the gravel. In other places, the gravel bars at Fort Bridger are evident on the surface. Adjacent to the Mormon Compound, there is variability in deposition. We have excavated test units into this sand to a depth of 1.90 m just west of the Mormon Compound. When the stone wall was constructed, some sections of the wall were set on this sand and

the footer was never laid on gravel. Over time, the walls set on sand began to lean. Historic photographs show wall failure of the Cobble Fort ultimately led to it being dismantled except for the section we excavated in 1989 (Gardner 1990).

Several factors led to the intact Mormon Wall remaining upright. First Bridger and then Robinson constructed their posts on a highpoint above flood stage. There is no evidence of over-bank flooding in the Mormon or Bridger compounds. In our nearly 30 years of work at the site, we have encountered floods but except for problems created by modern rechanneling of sections of the historic dry moat (a.k.a., 1858 trench excavated around the post) we have had no water problems and no flooding over the surface of the original fort. Second, the Mormon Wall was maintained in the Commissary. We need to next review the original 1857 construction of the stone walls.

The Mormon cobble walls were built in phases. In April of 1857, Lewis Robinson wrote Daniel H. Wells stating: "The President spoke of my forting in. I would like to know his mind about what size fort to make also what length and thickness of wall. The present fort is about 80 feet square" (Gowans and Campbell 1975:82). Robinson was very accurate in his writings and the fact he notes the post is about 80 feet square gives us one of our best measured details of Bridger's remodeled post size. Robinson would increase this size to 100 foot square for the living compound. On May 30th Robinson again wrote Daniels and complained: "I have no Mason here except Jerome Thempton and I hardly think him competent to put up the fort as it should be done. If you could send a good mason out to boss the work I would be glad" (Gowans and Campbell 1975:82). Within two weeks Robinson would write Brigham Young and report: "I have got my horse corral finished except for the gates and am getting along quite well with the fort. The north wall is up 16 feet high and we are nearly finish the west line tomorrow (Figures 15, 16, 17) (Gowans and Campbell 1975:82-83)." Two things are obvious, they lacked a skilled mason and the walls went up fast, probably before a skilled mason could take control. Nonetheless, in two weeks time they built the corral. By August the entire fort was done. John Pulsipher in his diary entry for August 12th proclaimed, "Brother Robison made a feast and dance, invited us to celebrate the completion

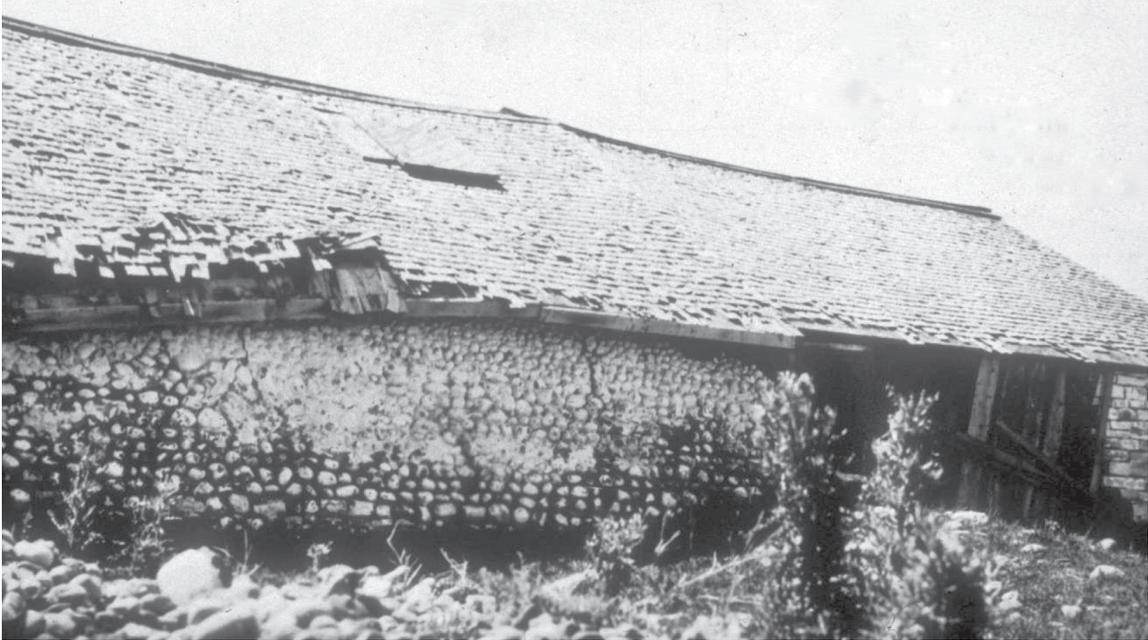


Figure 15: Photographs illustrating Commissary's cobble wall and roof. Possibly taken in 1890s or around 1900 but date is unknown. Courtesy of Fort Bridger State Historic Site, Department of Wyoming State Parks and Cultural Resources.

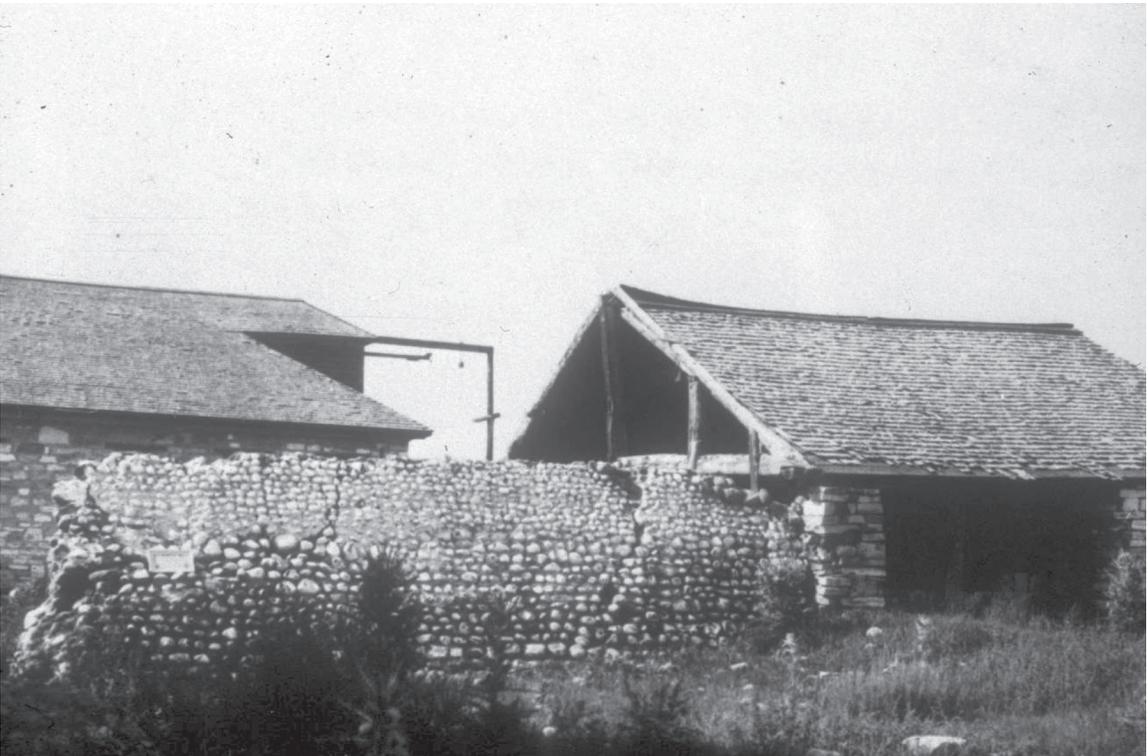


Figure 16: Photograph shows milk barn (barracks) extension to west. It also shows small plaque placed on wall. Courtesy of Fort Bridger State Historic Site, Department of Wyoming State Parks and Cultural Resources.

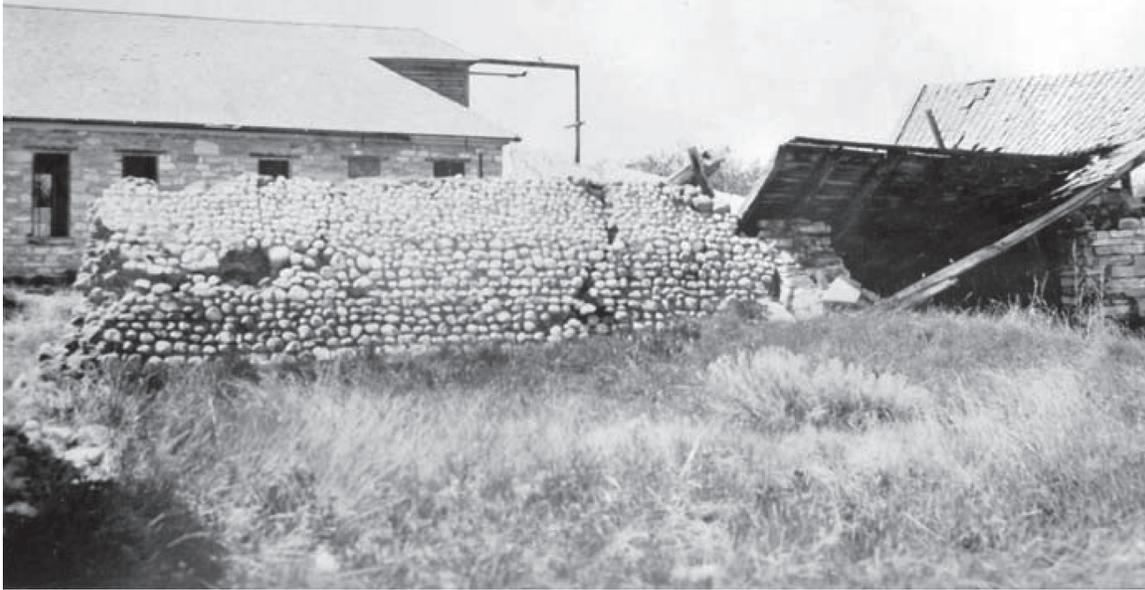


Figure 17: When wooden structure on west end collapsed, intact wall was stressed. Note lean to south and sizeable cracks in wall. Photograph facing south. Date unknown but possible from 1920s. Courtesy of Fort Bridger State Historic Site, Department of Wyoming State Parks and Cultural Resources.

of the new Fort Bridger. Strong walls 16 feet high and five feet thick.” Orson Pratt would write in his diary on August 14, 1857, “Lewis Robinson...just completed the wall of the new fort built of rock and mortar” (Gowans and Campbell 1975:83).

Mortar was used to cement the walls together but our analysis shows some of it was not made from well-fired lime. The mortar used in the walls is a mix of lime and sand grit which crushes under pressure. Some of the better fired lime actually created an excellent mortar but in the wall, it is a mix of good and bad mortar. Limestone found west of Fort Bridger would have served well when crushed and heated to drive out carbon dioxide and create lime. To drive out the carbon dioxide, a temperature of between 500 to 600° would have to be reached. Lime kilns exist west of Fort Bridger near the limestone quarry (ca. four to seven miles west) but appear to date to the military period. More than likely, Mormon builders had kilns there too, but it seems there may have been problems heating the limestone. The weight of the wall would provide enough pressure in some places to crush poorly fired mortar. The corral walls were quickly built by less than experienced hands. The corral wall was also placed in some places on sand. Yet it stands. Why?

Part of the answer lies in what happened in 1857-1858. The military decided to use the

north wall of the corral to form the north wall of their Commissary. The military constructed their buildings either from wood or cut limestone. The limestone was quarried from a good source west of the fort. In building the Commissary, they made the south, east, and west walls from cut limestone mortared with lime mortar. The north wall was made by the Mormons. The US Army used the Mormon Compound extensively in 1857-1858, constructing several buildings inside the Mormon Walls (Figure 18 and 19). Overtime, the only wall maintained was the Commissary. The Military built stone shoring in the interior of the Commissary and the footers for this limestone block pillar shoring may have been found in our test units. Photographs dating to the early twentieth century show this shoring.

So even though the northern wall of the corral was placed in a sandy soil with little gravel and began to lean inward (south) in the 1800s, it still stands. Constructed by volunteers paid with flour (Gowans and Campbell 1975:82) with less than optimal mortar on top of unstable soils, the wall was built. It has withstood having the entire fort burned to the ground, turning the area into a Commissary, making the wall a fence as part of a dairy operation, and having tourists pull cobbles from the wall for souvenirs (Figure 17). Today, the large concrete support constructed in the early 1990s ensures the

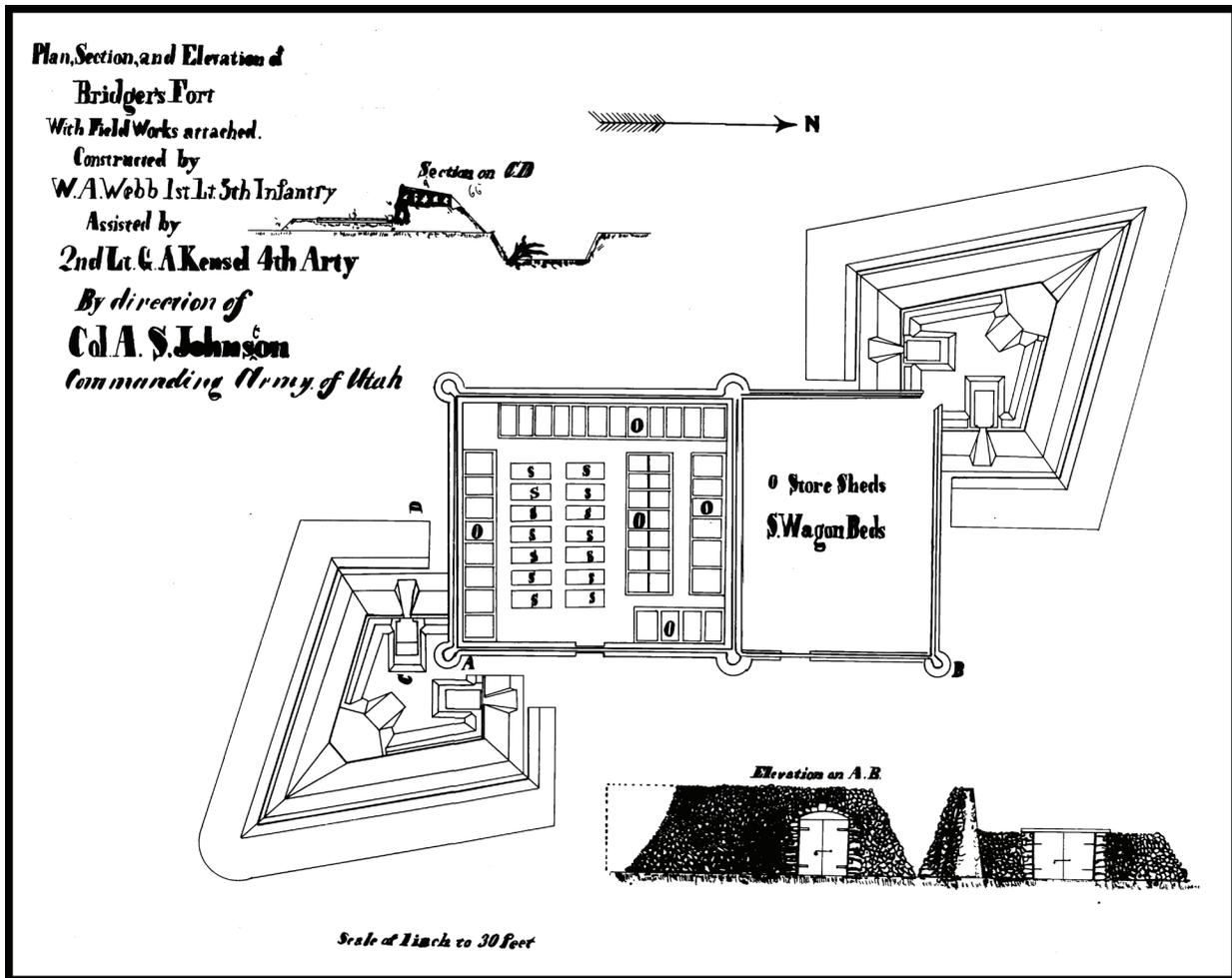


Figure 18: Johnson's engineers plan for modified Mormon Compound. Plans were constructed in 1858. Courtesy of Fort Bridger State Historic Site, Department of Wyoming State Parks and Cultural Resources.

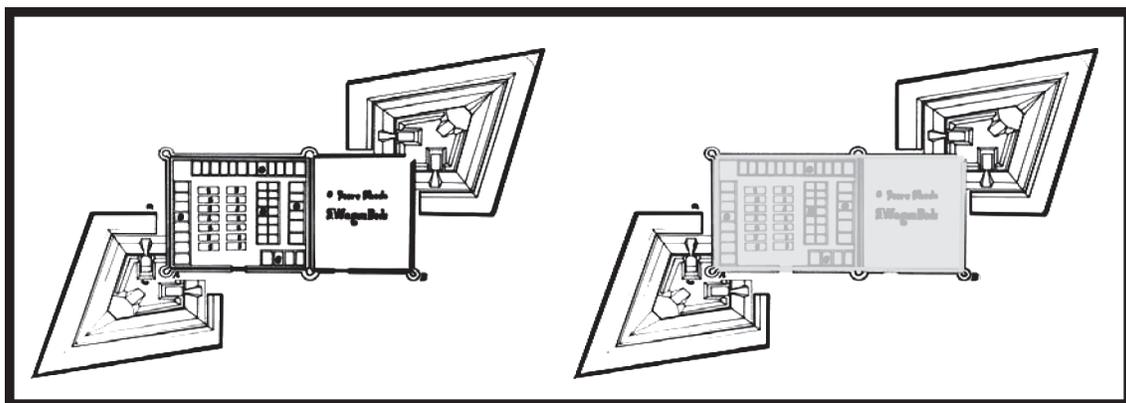


Figure 19: Figure on left emphasis limits of dry moat. Figure on right shows highlighted original Mormon Compound (1857). In 1858, army breached northwest wall of corral to allow access to lunette where cannons were placed. Breach is just west of 1989 excavations. Courtesy of Fort Bridger State Historic Site, Department of Wyoming State Parks and Cultural Resources.

wall remains upright and from the north looking south the wall appears as it should: slightly leaning but upright.

REFERENCES CITED

- Barnes, F. C.
 1980 *Cartridges of the World*. Follet Publishing Company, Chicago.
- Eckerle, William
 1994 Geological, Pedological, and Paleoenvironmental Assessment of the Bridger Trading Post Locality, Fort Bridger (48UT29), Wyoming. In *Data Sets (1992) and Paleoenvironmental Assessment (1993) for Fort Bridger* by A. Dudley Gardner, David E. Johnson, and Debbie Allen, editors. Unpublished Cultural Resource Management Report. On file, Fort Bridger State Historic Site, Fort Bridger, Wyoming. May 1994.
- Ellison, Robert S.
 1992 *Fort Bridger: A Brief History*. Cheyenne: Frontier Printing.
- Gardner, A. Dudley
 1990 Preliminary Report for the 1990 Excavations within the Mormon Fort, Fort Bridger State Historical Site 48UT29, Uinta County, Wyoming. Archaeological Services, Western Wyoming Community College, Rock Springs, November 1990.
- Gardner, A. Dudley, David Johnson, and Patrick Bower
 1985a Test Excavation at the Fort Bridger Commissary. Archaeological Services, Western Wyoming Community College, Rock Springs, Wyoming.
 1985b Results of Test Excavations and Archaeological Monitoring of the Area Adjacent to the Reconstructed Bridger Trading Post, Fort Bridger, Wyoming. Archaeological Services, Western Wyoming Community College, Rock Springs.
 1985c Results of Monitoring the Service Lines to the Commanding Officer's Quarters at Fort Bridger, Wyoming. Archaeological Services, Western Wyoming Community College, Rock Springs.
- Gardner, A. Dudley, Dave E. Johnson, and David Vlcek
 1991 *Archaeological Investigations at Fort Bonneville*. Archaeological Services of Western Wyoming Community College, Rock Springs.
- Gardner, A. Dudley and Martin Lammers
 2009 Lincoln Highway Motor-court Cabin Testing Program T. E. A. L. Project 2007. Prepared for Wyoming State Parks and Historic Sites. Manuscript on file at Western Wyoming Community College, Rock Springs, Wyoming.
- Gowans, Fred R.
 2003 *The Forts of Green River Valley*. Brigham Young University Press, Provo.
- Gowans, Fred R. and Eugene E. Campbell.
 1975 *Fort Bridger: Island in the Wilderness*. Brigham Young University Press, Provo.
- Fred Gowans and Eugene Campbell
 1976 *Fort Supply: Brigham Young's Green River Experiment*. Brigham Young University Publications: Provo Utah.
- Hauff, Jeff L.
 1985 Historical Archaeology at Fort Bridger (48UT29), Wyoming: The Old Guardhouse. Office of the Wyoming State Archaeologist, Laramie.
- Hauff, Jeff L. and Sklar S. Scott
 1983 Archaeological Investigations at Fort Bridger (48UT29), Uinta County, Wyoming, 1983 Field Season, The Bandstand. Office of the Wyoming State Archaeologist, Laramie.
- Johnston, William Preston
 1997 *The Life of General Albert Sidney Johnston Embracing His Services in the Armies of the United States, The Republic of Texas, and the Confederate States*. New York: Da Capo Press.
- Lammers, Martin and A. Dudley Gardner
 2007 Fort Bridger State Historic Site, 48UT29 Lincoln Highway Motor-court Cabin Testing Program. Prepared for Wyoming State Parks and Historic Sites. Manuscript on file at Western

Wyoming Community College, Rock Springs, Wyoming.
Madsen, Brigham D.

1989 *Exploring the Great Salt Lake: The Stansbury Expedition of 1849-50*. University of Utah Press, Salt Lake City.

United States Census

1850 *Seventh Census of the United States, 1850*. Washington, D.C.: United States Government Printing Office, 1852.

White, H. P., and B. D. Munhall

1963 *Cartridge Headstamp Guide*. H. P. White Laboratory, Bel Air, Maryland.

A Dudley Gardner
Western Wyoming Community College
Rock Springs, Wyoming

David Johnson
Western Wyoming Community College
Rock Springs, Wyoming

Martin Lammers
Western Wyoming Community College
Rock Springs, Wyoming

PRELIMINARY ANNOUNCEMENT

**The 2013 annual spring meeting of the Wyoming
Archaeological Society
and the Wyoming Association of Professional
Archaeologists**

**will be held in Laramie, Wyoming at the
Hilton Garden Inn during
the weekend of April 26-28, 2013.**

**All the standard events will take place and
details will be sent to all members at a later date.**

SAVE THIS WEEKEND ON YOUR CALENDAR NOW!!!!

A MALLORY SITE (48AB396) IN THE SNOWY RANGE MOUNTAINS OF SOUTHEASTERN WYOMING

by
David Eckles
and
David Reiss

Site 48AB396 was located in 1982 during a class III cultural resource survey of the Rob Roy Reservoir project in Albany County, Wyoming (Eckles and Scott 1983). The site is located on the eastern side of Douglas Creek at 9240 ft in the Snowy Range Mountains of southeastern Wyoming. Archaeological excavations (Figure 1) were conducted at the site in 1983 by the Office of the Wyoming State Archaeologist (Reiss 1985). Seventy one meter square units were excavated with three sediment horizons being identified. From 0-36 centimeters below surface (cmbs), a brown clay loam was encountered. From 36 to 43 cmbs, a yellowish brown clay loam was found and from 43-70 cmbs, a yellow clay loam with abundant gravel was found. Cultural materials were found in the two upper horizons, from 0-43 cmbs. No cultural remains were recovered below 43 cmbs. Evidence of bioturbation in the form of animal burrowing was noted throughout the upper and middle sediment horizons (Reiss 1985:46).

Two apparent hearth features were discovered near the contact with the middle and lower sediment horizons, between 30-40 cmbs. Feature 1 was shaped like a half circle, clearly disturbed by animal burrowing. It was 40 by 30 by 10 cm deep. Feature 2, another possible hearth, was also disturbed by animal burrowing and displayed an irregular shape. It was 42 by 40 by 18 cm deep. Charcoal from Feature 1 returned a date of 3930 \pm 130 (RL-1837). Charcoal from Feature 2 returned a date of 3370 \pm 130 (RL-1838).

The artifact assemblage contained 1140 chipped stone tools and debitage. This includes 35 artifacts from the surface and 1105 artifacts from the excavation block. Artifacts were found from the surface to 40 cmbs with no apparent separation suggesting

different occupations. No faunal remains, ground stone, or other types of artifacts were found. There were no charred floral remains recovered from the features.

Chipped stone tools included four Mallory projectile point fragments (Figure 2), 22 biface fragments, one end scraper, two retouched flakes and two utilized flakes. One core and one tested cobble were also found. Debitage makes up the overwhelming majority (97 percent) of the assemblage with tertiary flakes being the most abundant.

Mallory projectile points are quite distinctive (Figure 3). They are generally thin with long sharp cutting edges and have deep, narrow side notches. Some of the side notches are expanded, being wider in the blade area. The bases of the points range from concave to deeply notched and some (such as those from 48AB396) have a concave base with a basal notch (Davis and Keyser 1999:256).

DISCUSSION

Mallory projectile points are relatively rare in the archaeological record of Wyoming as well as in surrounding states in the plains and Rocky Mountains (Table 1). Dated sites with Mallory points are known from Wyoming (Sharrock 1966, Lobdell 1973, McClelland and Martin 1999, Reiss 1985), Colorado (e. g. Black 1983, Buckles 1978, Morris et al. 1985) and western Nebraska (Forbis et al. 1965, Olson and Broecker 1959). Mallory points are also reported from southeastern Montana (Peck 2011). Mallory points from excavated sites in Wyoming include Scoggin (48CR304), Pine Springs (48SW101), 48AB396 (this report), Natrona Housepit (48NA2526), Whirlwind (48SW12174) and the Bozner site (48SW5809) in southwestern



Figure 1: Excavation block and surrounding terrain at 48AB396, view to the southwest.

Wyoming which contains an undated Middle Archaic component (Mackey et al. 1985). The Whirlwind site contained a probable Mallory point and a hearth features dating around 4000 before present (within the reported range of dates for Mallory), but the investigators cautioned because of mixing of artifacts from several time periods, there was not necessarily a direct association between the hearths and artifacts (Darlington 1999:100). Excavations

at site 48NA2526 recovered a Mallory point and returned a number of radiocarbon dates between 3820 and 4840 years before present (McClelland and Martin 1999:8-16).

A search of the Wyoming SHPO Cultural Records database, including examination of site forms and isolated find forms, indicated 78 sites and isolated finds containing Mallory points have been recorded (as of January 2012). Most of these sites



Figure 2: Mallory projectile point fragments from 48AB396.

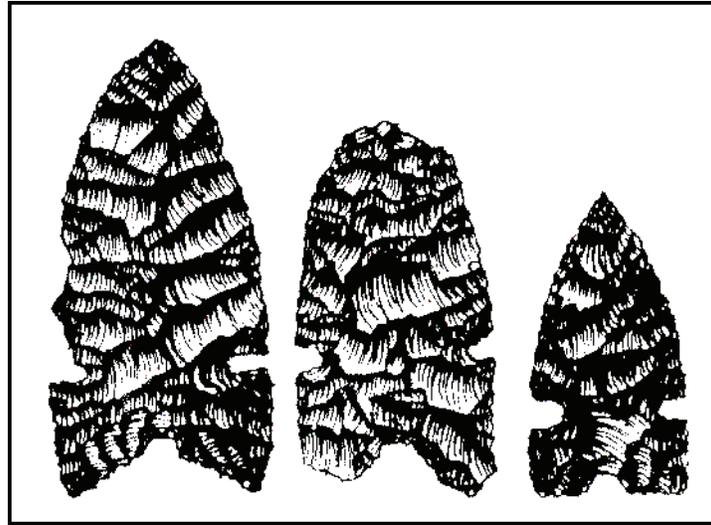


Figure 3: Sample of Mallory points from the Scoggin site (Lobdell 1973:51).

Table 1: Selected Radiocarbon Dated Site Components with Mallory Points.

SITE	SITE TYPE	C-14 (BP)	LOCATION	REFERENCE
Scoggin (48CR304)	Bison kill	4540 +/-110 (RL-174)	Wyoming	Lobdell (1973, 1974)
Pine Springs (48SW101)	Camp	3635+/-80 (GX-356)	Wyoming	Sharrock (1966)
48AB396	Lithic site/ camp	3370+/-130 (RL-1838)		
		3930+/-130 (RL-1837)	Wyoming	Reiss (1985)
Natrona Houepit (48NA2526)	House pit	3820+/-50 (Beta 112187)		
		to 4840+/-50 (Beta 112191)*	Wyoming	McClelland and Martin (1999)
Signal Butte	Camp	4170+/-250 (L-3850)	Nebraska	Forbis (1985:22), Olson and Broecker (1958)
		4550+/-220 (L-3858)		
5GN344	Subalpine camp	4065+/-380 (GX-7115)	Colorado	Black (1983)
Dead of Winter	Lithic site	4210+/-80 (QL-1233)	Colorado	Buckles (1978)
Vail Pass	Mountain camp	ca. 3450 BP (date reported as 1763+/-52 B.C.)	Colorado	Morris et al. (1985:16)

* Multiple dates with high and low ranges indicated.

and isolated finds were recorded as a result of cultural resource compliance surveys and inventories. Most of the Mallory occurrences are in southern and central Wyoming when looked at geographically across the state (Table 2). While this geographic distribution is interesting and may be meaningful, it should be noted archaeological compliance projects are weighted in favor of areas within the state in which energy development is most common (e. g. southwestern and south-central Wyoming).

SUMMARY

Investigations at 48AB396 in the Snowy Range Mountains of southeastern Wyoming resulted in the

identification of a buried cultural component dating to the Middle Archaic period. Mallory projectile point fragments were discovered at the site. Radiocarbon dates from 48AB396 appear to be within the range of dates reported for Mallory occupations.

ACKNOWLEDGMENTS

This article is dedicated to David Reiss who was the excavation project manager at site 48AB396. Great thanks to Steven Sutter and Jeremy Planteen of the Wyoming State Historic Preservation Office, Cultural Records Office for researching the site data base and producing a list of sites and isolated finds in Wyoming containing Mallory points.

Table 2: Sites and Isolated finds in Wyoming with Mallory Points.

LOCATION IN WYOMING	BASIN	MOUNTAINS/FOOTHILLS	TOTAL	SURFACE	EXCAVATED	TOTAL
Southwestern						
Sweetwater	25	1		23	3	
Lincoln	3			3		
Sublette	2			2		
Uinta	1			1		
Southeastern						
Albany	1	4		4	1	
Carbon	18	2		19	1	
Platte	1			1		
Central						
Natrona	6	1		6	1	
Northeastern						
Sheridan		2		2		
Johnson	1			1		
Campbell	4			4		
Converse	4			4		
Northwestern						
Bighorn	1			1		
Park	1			1		
Totals	68	10	78	72	6	78

REFERENCES CITED

Black, Kevin D.
 1983 Shelter and Subsistence at 5GN344, a High Altitude Short-term Camp near Altamont, Colorado. *Southwestern Lore* 49(3):1-27.

Buckles, William G.
 1978 The Dead of Winter Site, 5LK159. In *Anthropological Investigations near the Crest of the Continent*, edited by William G. Buckles, pp. 328-387. Bureau of Reclamation Regional Office, Denver, Colorado.

Darlington, David
 2009 *Archaeological Data Recovery at the Whirlwind Site (48SW12174) Along the Anadarko Petroleum Corporation Monell CO2 Pipeline, Sweetwater County, Wyoming*. Report by Western Archaeological Services, Rock Springs, Wyoming. On file, State Historic Preservation Office, SHPO Cultural Records, Laramie, Wyoming.

Davis, Carl M. and James D. Keyser
 1999 McKean Complex Projectile Point Typology and Function in the Pine Parklands. *Plains Anthropologist* 44:251-270.

Eckles, David and Skylar S. Scott
 1983 *A Cultural Resource Survey of the Rob Roy Reservoir Portion, Cheyenne Water Project, Albany County, Wyoming*. Report by the Office of the Wyoming State Archaeologist prepared for Banner and Associates. On file, State Historic Preservation Office, Cultural Records, Laramie, Wyoming.

Forbis, Richard G.
 1985 The McKean Complex as seen from Signal Butte. In, McKean/Middle Plains Archaic: Current Research, Marcel Kornfeld and Lawrence C. Todd, (editors). *Occasional Papers on Wyoming Archaeology* 4:21-29.

- Forbis, Richard G., William Duncan Strong and Maurice E. Kirkby
 1965 Signal Butte and MacHaffie: Two Stratified Sites on the Northern Great Plains. Manuscript on file, Department of Anthropology, University of Wyoming, Laramie.
- Lobdell, John E.
 1973 *The Scoggin Site: An Early Middle Period Bison Kill*. Unpublished Master's Thesis, Department of Anthropology, University of Wyoming, Laramie, Wyoming.
 1974 The Scoggin Site: A Study in McKean Typology. *Plains Anthropologist* 19:123-128.
- McClelland, Bruce R. and William Martin
 1999 The Natrona Housepit Site (48NA2526). In *Archaeological Investigations along the Wyoming Segment of the Express Pipeline. Volume 4: Wind River Basin and Casper Arch Sites*. Report by TRC Mariah Associates, Inc., Laramie, Wyoming. On file, State Historic Preservation Office, Cultural Records, Laramie, Wyoming.
- Mackey, James E., Thomas P. Ruest, Darryl Newton, Bridget Hakiel, Ricky Laurent, Doug Hefington and Douglas Kullen
 1985 *Excavations at the Bozner Site, Southwestern Wyoming*. Western Prehistoric Research. On file, State Historic Preservation Office, Cultural Records, Laramie, Wyoming.
- Morris, Elizabeth A., Richard C. Blakeslee and Kevin Thompson
 1978 Preliminary Description of McKean Sites in Northeastern Colorado. In McKean/Middle Plains Archaic Current Research, Marcel Kornfeld and Lawrence C. Todd, (editors). *Occasional Papers on Wyoming Archaeology* 4:11-20.
- Olsen, Edwin A. and W. S. Broecker
 1959 Lamont Natural Radiocarbon Measurements. *Radiocarbon* 1:1-28.
- Peck, Trevor R.
 2011 *Light from Ancient Campfires: Archaeological Evidence for Native Lifeways on the Northern Plains*. Athabaska University Press, Edmonton, Alberta, Canada.
- Reiss, David
 1985 *A Final Report of the Mitigation of Sites on the Rob Roy Reservoir Project, Albany County, Wyoming*. Report by the Office of the Wyoming State Archaeologist, prepared for Banner and Associates. On file, State Historic Preservation Office, Cultural Records, Laramie, Wyoming.
- Sharrock, Floyd W.
 1966 Prehistoric Occupation Patterns in Southwest Wyoming and Cultural Relationships with the Great Basin and Plains Culture Areas. *University of Utah Anthropological Papers* No. 77.
- Dave Eckles
 2664 Monroe Street.
 Laramie, Wyoming
- David Reiss
 Office of Wyoming State Archaeologist
 Laramie, Wyoming

BOOK REVIEW

PREHISTORIC HUNTER-GATHERERS OF THE HIGH PLAINS AND ROCKIES. Third Edition. Marcel Kornfeld, George C. Frison, and Mary Lou Larson, with contributions by Bruce A. Bradley, George W. Gill, Julie E. Francis, and James C. Miller. Left Coast Press: Walnut Creek, California, 2010. 710 pages, Preface, Chapter by Chapter list of illustrations, references cited, site index, subject index, author and contributor brief resumes, hardcover. ISBN 9788-1-59874-5. \$89.00

This remarkable book bears little visual resemblance to Frison's 1978 and 1991 seminal publication, *Prehistoric Hunters of the High Plains*. It contains 13 archaeologically filled chapters with dozens of well-thought-out subchapters detailing the archaeology and prehistory of its geographic area. All of the illustrations are black and white except for Plates 1-4 in Chapter 12 by James C. Miller. It is well laid out, wonderfully illustrated, and makes obvious why folks find the archaeology of the High Plains and Rockies to be so fascinating.

Preface – *The Preface* is worth reading because it lays out the development of thought related to the prehistory of the High Plains and Rocky Mountains. “The first edition...emphasized cultural chronology...and reformulate the cultural chronological scheme for the region...the 2nd edition continued refining the cultural chronology...focused on adaptive strategies (emphasizing bison procurement)...in this volume we begin the process of integrating these data into a more complete picture of prehistoric lifeways and sociocultural systems of the Northwestern Plains and Rocky Mountains” (Kornfeld, Frison, Larson 2010:23-24). It also contains data regarding agency hiring practices, and discusses the lessening of university involvement in cultural resource management (but continuing to provide well-educated students to agencies) and disappointments that the authors share in the focus of some of the museum programs.

Chapter 1 – *An Ecological Area for Prehistoric Hunters and Gatherers* serves as the introduction to the volume, focusing on various ecological ar-

reas, with discussions of the harsh environments of much of the area, and specific geographic niches, including basins, river valleys, mountain ranges, and plains. Table 1.1 is useful to the reader because it summarizes paleoenvironmental data and sources of the data used in the volume. A chronology for the region is developed and cited in Table 1.2. The chapter concludes with a good discussion of human responses through time to changes in the subsistence base. Using the Preface and Chapter 1, one can understand the philosophy of the volume and refer to the index for particular information.

Chapter 2 – *The Archaeological Record for the Northwestern Plains and Rocky Mountains* is a fact-filled 88 pages describing the archaeological record of the region. The establishment of the cultural chronology is recounted. There is a well-documented section on tool assemblages and debitage, which is also well illustrated. These are followed by a good discussion of pre-Clovis possibilities occurring in the region and a well-documented discussion of the Early Paleoindian Period which also includes an excellent overview of the Clovis, Folsom and Midland complex sites. The Middle Paleoindian period sections on the Agate Basin, Hell Gap, and Cody cultural complexes are handsomely illustrated and combine discussions of technical lithic production and lithic tool designs with a summary of the history of the archaeological excavations and relationships to other geographic areas. The last third of the chapter focuses on the Plains Archaic and Late Prehistoric Period sites with the projectile point styles that define the complexes. The chapter ends with a short but good discussion on the Protohistoric Period.

Chapter 3 – *Methodology for the High Plains and Rocky Mountains Animal Behavior, Experimentation and High-Tech Approaches*. The chapter title is a mouthful, but it is really an excellent overview of how to procure large game with stone tool technologies. Of particular interest is the discussion of the procurement of elephants using Clovis implements. The discussion of animal behavior (elephant, bison, pronghorn, bighorn sheep, deer, and elk) is excellent and allows the reader to transition into discussions

on age determinations and mortality profiles of large game, sex determinations of skeletal remains, and the use of taphonomy (death assemblages) from bone beds and experimental archaeology. The pages dedicated to butchering and processing animals through the use of stone tools is worth the price of the book. It is an excellent overview of the leadership professional scholars of the region have taken in trying to understand just how humans obtained large game with stone weaponry.

Chapter 4 – *Mammoth and Bison Hunting* is synonymous with the High Plains region of North America. This long chapter is divided into many subchapters which allows the reader to understand the procurement of animal meat with stone tools, and discusses individual sites which contain evidence of mammoth and bison hunting. A good discussion of the Colby site with photos of mammoth bones and Clovis points introduces the chapter. The remainder of the chapter discusses bison hunting and sites with bison remains such as the Folsom sites of Agate Basin, Hell Gap, Lindenmeier and the Lipscomb Bison Quarry in Texas, and the artifacts associated with the sites, including various natural traps associated with bison kill sites. There is an excellent discussion of the Hudson-Meng site in western Nebraska. The Horner, the Finley (recently listed in the National Register of Historic Places), and the Carter/Kerr-McGee sites are eloquently discussed in this chapter. Buffalo jump sites are also discussed and well illustrated. Some ethnographic information is included regarding the Crow Indians and “buffalo jumping.”

Chapter 5 – *Prehistoric Hunting of Other Game and Small Animal Procurement* discusses the procurement of game other than that of mammoth and bison. Pronghorn are discussed from a number of sites including sites with pronghorn bone beds and the use of antelope traps. Deer and elk procurement is also discussed as are small mammals, birds, amphibians, insects, fish and shellfish.

Chapter 6 – *Prehistoric Lifeways and Resources on the Plains and in the Rocky Mountains* focuses on ethnographic analogy, a bit more on animal life of the region, and examines plant resources and the diet of the inhabitants including seeds, roots, greens, and fruits. A nice discussion of prehistoric food preparation, fire pits, food, stone tool caching, and quarrying lithic material is covered in this chapter.

The illustrations and photograph are fabulous.

Chapter 7 – *Communities and Landscape* essentially examines how people spatially organized their communities and the types of dwellings they lived in. The basic units of those communities are the remnants of their living structures and/or campsites, from which life’s activities were organized around and within a regional landscape. The second part of the chapter examines specific features found on the landscape that probably functioned as game traps, but some feature types still have unknown functions.

Chapter 8 – *A Myriad of Life’s Necessities* is both an important and interesting chapter that covers a hodgepodge of material items such as clothing, stone containers, atlatl weights, exotic items, musical instruments, and more. Too often, these rare items are reported at individual sites but never collectively examined in the context of a landscape as the authors do here.

Chapter 9 – *Paleoindian Flaked Stone Technology on the Plains and in the Rockies* (Bruce Bradley) will be appreciated by both lithic and Paleoindian specialists. Bradley lays out a rigorous technological study of biface production throughout the Paleoindian Period that sets the stage for questioning cultural affinities and origins during this time span.

Chapter 10 – *Northwestern Plains and Rocky Mountain Rock Art Research in the Twenty-first Century* (Julie E. Francis) tackles the variety of rock art types with a broad regional overview of this topic. This overview builds upon early studies of stylistic distributions, offers revisions to chronological studies, and then reexamines interpretive ideas. Like Chapter 8, it covers a topic that collectively brings more clarity to human use of this regional landscape.

Chapter 11 – *Advances in Northwestern Plains and Rocky Mountain Bioarchaeology and Skeletal Biology* (George W. Gill) is a wonderful update of an earlier study found in the 2nd edition, and rewards the reader with new information on human biological populations.

Chapter 12 – *Lithic Resources* (James C. Miller) looks at the various sources of lithic raw material and addresses the inevitable sourcing problems for this region. Miller rightly emphasizes that a rigorous sourcing study where the analyst understands the data limitations can still help address those prime goals of interpreting mobility through population

movements or resource exchange.

Chapter 13 – *Final Thoughts and Remarks* The final chapter takes a quick look at what archaeologists have learned about this region in the last 20 years and the daunting task of bringing all the knowledge into a comprehensible volume.

As a final comment on the value of this book, many of the excavation photographs illustrate outstanding excavation technique; students new to archaeological research should take note.

Did the authors accomplish their task of providing a truly new look from this 3rd Edition? A simple yes answers that question, in our humble opinion. Still, this edition has certainly increased in the volume of pages, and one wonders if it might be time to turn this study into two volumes with a basic overview and then specialized studies. Certainly, Chapters 8 through 12 could be repackaged as a stand alone companion volume. Besides, at the current rate of technological innovations and new data anticipated in the next five to ten years, the authors may have no choice in this matter if and when the time comes for the 4th Edition.

REFERENCES CITED

Frison, George C.
1978 *Prehistoric Hunters of the High Plains*.
New York: Academic Press
1991 *Prehistoric Hunters of the High Plains*.
2nd edition. San Diego: Academic Press
Kornfeld, Marcel, George C. Frison and Mary Lou
Larson
2010 *Prehistoric Hunter-Gatherers of the
High Plains and Rockies*. 3rd edition.
Walnut Creek, CA: Left Coast Press

Mark S. Becker, ASM Affiliates, Inc.
2034 Corte del Nogal
Carlsbad, CA 92011

Russell L. Kaldenberg, ASM Affiliates
3904 Central Avenue, Ste. A
Cheyenne, WY 82001

Judyth E. Reed, ASM Affiliates
3904 Central Avenue, Ste. A
Cheyenne, WY 82001