THE WYOMING ARCHAEOLOGIST

WYOMING ARCHAEOLOGICAL SOCIETY

VOLUME 51(1)
SPRING 2007
ISSN: 0043-9665

[THIS ISSUE PUBLISHED FEBRUARY 2009]

THE WYOMING ARCHAEOLOGIST
VOLUME 51(1), SPRING 2007

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THIS ISSUE PUBLISHED FEBRUARY 2009

WYOMING ARCHAEOLOGICAL SOCIETY MEMORIAL GIFT or CONTRIBUTION FORM

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

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Name *City & State*

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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. $_____
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In Memory of: _____
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In Honor of: _____
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Specify where you would like your money to go _____
(e.g., Hell Gap Site Research, other, ???????)

Please make your check payable to THE WYOMING ARCHAEOLOGICAL FOUNDATION
Send to Barbara Nahas, WAF Treasurer, PO Box 3146 – Cody 82414-3146 – 307-868-2685

NEWS AND ANNOUNCEMENTS

Wyoming Archaeological Society, Inc.
2008 Annual Meeting Minutes
8:00 a.m. – Outlaw Inn, Rock Springs, WY
Saturday, April 26, 2008

Presiding: Dale Wedel, 1st Vice President
Call to Order: 8:00 a.m.
Report of Credentials Committee/Roll Call of Delegates: Executive Secretary/Treasurer Carolyn Buff certified the voting delegates: Absaroka – Sylvia Huber and Barbara Nahas; Ancient Trails – Alice Tratebas; Casper – CK Adams and John Albanese; Cherokee Trail – John Lund and Jan Soldan; Fremont County – Tom Harless and Leniegh Shrinar; June Frison – Rich Adams and Marty Rogers; Sheridan/Buffalo – BJ Earle; and Sweetwater County – Bill Current.

Roll Call showed eight chapters represented: Absaroka, Ancient Trails, Casper, Cherokee Trail, Fremont, June Frison, Sheridan and Sweetwater. Not represented at the meeting were Cheyenne, High Plains, Rawlins and Teton. Cheyenne, High Plains and Rawlins are inactive.
Approval of Minutes of April 21, 2007: Approved as published.
Treasurer's Report: Executive Secretary/Treasurer Carolyn Buff gave the treasurer's report showing a total net worth of $58,420.11, an increase of $1,483.65 over 2007. Motion by Rich Adams, second by Bill Current to file the report for audit. Carried.
Auditor's Report: Danny Walker, Janice Baars and Dewey Baars performed the annual audit and found the accounts to be in order.
Editor's Report: Danny Walker reported that two issues of *The Wyoming Archaeologist* had been mailed on April 2 with two more issues in progress. Manuscripts are still needed to get us caught up with the publication schedule.
Librarian's Report: Danny Walker – The WAS library has been moved into the new building and is being housed with the Frison Institute Library.
Committee Reports: Scholarship: Carolyn Buff announced the Scholarship Committee would meet at lunch to evaluate the scholarship applications.
SAA/COAS: Marcel Kornfeld. The Council of Affiliated Societies met in Austin the past year during the SAA meeting. COAS cosponsors the poster contest and will have a booth at the next meeting. This is the 75th anniversary of SAA. The public portion of the SAA website publishes photos, but those photos must be certified and individuals in the photos must give permission for photos to be published.
Chapter Reports: The chapter reports will be published in *The Wyoming Archaeologist* as space allows.
State Archaeologist's Report: Mark Miller announced the next meeting of the SAA would be in Atlanta on April 22-26, 2009. Wyoming's poster won 2nd place this year. This is the 11th year in a row that Wyoming's posters have placed. All posters are displayed in the Anthropology Building at UW.

The Plains Conference will be held October 1-4, 2008 in Laramie at the Hilton Garden Inn. Dr. Miller made a request for $250 for support for the conference. Motion by Leniegh Shrinar, second by Rich Adams to approve this support. Carried.

Volunteers will be needed for the Plains Conference with discounts given to those volunteering.

Registration for the conference can be done on the website.

The keynote speaker for the Plains Conference will be Gustavo Politis.
Old Business: Archeology Awareness Month: Judy Wolf requested a donation of $250 to help support the poster, this year a picture of the Medicine Lodge Creek Site. Motion by Bill Current, second by Rich Adams to approve the donation. Carried.
Wyoming History Day: Marty Rogers announced that the winner of the $100 History Day Award was a student from Natrona County High School.
Friends of the George G. Frison Institute: Marcel Kornfeld announced that the bulletin was available. The Frison Institute lecture would be held in conjunction with the Plains Conference with Gustavo Politis being the guest lecturer, speaking about Pre-Clovis. Wednesday includes a field trip to the Lindenmier site and WAPA will meet on Tuesday.

Wyoming Archaeological Foundation: Judy Wolf reported that UW had two field sessions at Hell Gap.
Ord Ranch Project: John Laughlin announced that the Ord Ranch was for sale so decisions on the work he was planning is on hold for the present. He has deposited the $500 he was granted from the WAS into a special account until such time that he can resume work on the project.
Wyoming Rock Art Chapter: Carolyn Buff for Larry Loendorf. From Larry: "Last year, I accepted responsibility for studying the feasibility of establishing a 'rock art' chapter within the Wyoming Archaeological Society (WAS). The proposal, put forth by Mike Bies, was in reaction to the formation of a similar rock art chapter in the Colorado Archaeological Society and at the request of a group of WAS members who are especially interested in rock art research. In February of this year, Mark Miller, Carolyn Buff and Mike Bies exchanged some e-mail correspondence with me to remind me of the feasibility study and we agreed to meet in Thermopolis during a Legend Rock meeting.

As planned, it was possible for Carolyn Buff and Mike Bies to meet face to face with me and reach the following conclusions regarding the rock art issue:

1. Rather than form a rock art chapter with all the problems of dues, membership, and leadership, we agreed to form a rock art interest group within WAS.
2. The rock art interest group would meet in conjunction with the annual WAS meeting to discuss plans for the coming year.
3. Membership would be open to individuals outside Wyoming by joining the WAS as associate members.
4. The rock art interest group would engage in projects and not simply be a conduit for field trips to rock art sites.
5. As a testament to its new status, the WAS rock art interest group would organize and sponsor a rock art session for the Plains Conference in October of 2008.

Motion by Leniegh Shrinar, second by Rich Adams to for a rock art interest group. Carried.
New Business
Fall Activities: Mark Miller is compiling information on military sites in Wyoming. If anyone knows of sites to be added to the database, please let him know.

Mike Bies will chair the rock art symposium at the Plain Conference..
At Will Employee Contract (AWEC): Carolyn Buff for Dave Eckles. The Survey Section of the Office of the Wyoming State Archaeologist is seeking persons interested in working in survey as temporary employees. Anyone interested should contact Dave.
Brochures, Letterhead, Envelopes, Membership Cards: are available from Carolyn Buff.
Inactive Chapters: Cheyenne, High Plains, Platte County, Rawlins, Teton.
Richard Adams Request: From Rich:

The High Rise Village site was discovered in 2008 by WAS volunteers working with OWSA archaeologists. The site is located at 10,700 feet in the Fitzpatrick Wilderness in the Wind River Mountains and is accessible only by foot or horseback. More work in 2007 showed that the site had amazing subsurface potential. The High Rise Village is a high altitude analog of the Eden-Farson site; however, instead of pronghorn bones, the High Rise Village has some sheep bones and a tremendous record of plant food processing. We contend that this key site has the potential to change the way we think about prehistoric use of the mountains. The dense whitebark pine forest in which the site is located supplied large quantities of pine nuts that local Shoshone Indians stored for winter rations. The pine nuts were such an important resource that villages were erected in order to house people who worked at the pine nut harvest for months in the late summer.

George Frison wants to see the site and it costs $150 a day to rent a saddle horse from the outfitters who are dropping our equipment and supplies at a base camp. I am asking the Wyoming Archaeological Society to pay for Doc's trip up to the site and the Wyoming Archaeological Foundation to pay for Doc's trip down from the site. Grant money from a SPCR internal grant will pay for the day Doc spends at the site.

If Doc does not visit the site the money will be returned.

Motion by Barbara Nahas, second by Leniegh Shrinar to approve the $150 requested by Rich Adams. Motion failed.

It was the consensus of the voting delegates that the Wyoming Archaeological Society refrain from making any grants and that those wanting funding

for these types of projects seek the money from the Wyoming Archaeological Foundation, since that was the original intent of the formation of the Foundation. It was further suggested that since a portion of the WAS dues was paid to the WAF for research projects that WAF spending be suspended (except for property taxes, utilities, etc.) until such time as money can be raised to support these important projects.

Election of Officers: Janice Baars, chair, June Frison Chapter; Barbara Keiry, Absaroka Chapter; Mavis Greer, Casper Chapter; Eva Peden, Fremont County Chapter, and Marty Rogers, June Frison Chapter.

Nominated were Dale Wedel, June Frison Chapter, President, Janice Baars, June Frison Chapter, 1st Vice President, and Larry Amundson, Fremont County Chapter, 2nd Vice President.

Motion by Barbara Nahas, second by Leneigh Shrinar that nominations cease. Carried

Motion by Barbara Nahas, second by Bill Current to accept the slate as presented. Carried.

2009 Nominating Committee: Larry Amundson, chair; Sylvia Huber, Barbara Keiry, and Eva Peden

Selection of Site for 2009 Annual Meeting: The 2009 meeting will be held at the Buffalo Bill Historical Center in Cody as a four-day event, with invitations being sent to the Montana Archaeological Society and the American Rock Art Research Association. The focus will be on Legend Rock and other rock art sites.

Selection of Site for Summer Meeting: Mark Miller suggested that anyone interested contact the appropriate primary investigators to visit/volunteer for any summer activities.

Announcements: Carolyn Buff asked for an updated list of chapter officers.

The Wyoming Archaeological Foundation will meet at 7:00 a.m. and field trips will take place following the WAF meeting on Sunday.

Carolyn Buff announced that the database will be published in the journal, space permitting. Anyone not wanting their information published must make that request in writing.

Other Business to Come Before the Body: Mary Hopkins, interim SHPO announced that the 75th anniversary of the CCC New Deal celebration would be held at Guernsey State Park on May 3.

Historic Context training by Dr. Mike Cassity, partnering with the Wyoming Main Street project will be held on May 5-8, and Preserve Wyoming will be held at the Plains Hotel in Cheyenne May 14-16.

Adjourn: 9:30 a.m.

/s/ Carolyn M Buff
Executive Secretary/Treasurer

Wyoming Archaeological Society, Inc.
Scholarship Committee Minutes
April 26, 2008 – Outlaw Inn, Rock Springs, WY – 12:00 p.m.

Presiding: Carolyn Buff, Chair

Present: Dewey Baars, Janice Baars, Carolyn Buff, Bill Current, Barbara Nahas, Mary Lou Larson (ex officio), Mark Miller (ex-officio), and Dale Wedel

Mark Miller recommended that we increase the scholarship amount by $100 from $400 to $500.

Motion by Dewey Baars, second by Janice Baars to approve the increase and to grant the scholarships to the following:

Mulloy Undergraduate Scholarship to Gina Clingerman.

Frison Graduate Scholarship to Caroline Katron.

Jensen Traveling Doctoral Award to Norbert Waslick in the total amount of $750 ($250 from WAS; $250 from WAPA and $250 from WAF). Carried.

Adjourn: 12:20 p.m.

/s/ Carolyn M Buff
Scholarship Chair

Wyoming Archaeological Society, Inc.
Chapter Reports for the 2007-2008 Year

Absaroka: Testing/Excavation – Some members assisted at the Legend Rock Petroglyph site.

Public Education – Distributed Archaeology Awareness month posters around the Big Horn Basin and gave talks at schools about archaeology.

Work With Other Organizations – Legend Rock task

force with BLM, UW, State Parks

Casper: Programs Presented: Siberian Rock Art by Dr. Alice Tratebas; Ritual Use of Caves in the Southwest and Northern Mexico by Dr. John Greer; Black Hills National Forest Heritage Resource Program by Dave McKee; Elizabeth Custer in Yellowstone Park 1890 by BJ Earle; Protohistoric Archaeology in the Powder River Basin and Big Horn Mountains: Tracing Economic and Social Transition by Dr. Wendy Sutton; The Cherokee Trail by Eva Potts Burton; The Hell Gap Site: A Paleoindian Campsite on the Edge of the Rockies by Dr. Mary Lou Larson

Other: Attended the grand opening of the new Fort Caspar facilities January 2008.

Cherokee Trail: Survey – Big Creek Quarry, lodge remains and stone circles at Six-Mile

Public Education – Hosted state meeting

Programs – The High Rise Village Site: Whitebark Pine Nut Processing and Sheep Hunting at 10,800 Feet by Rich Adams; Excavations at Sand Draw Dump Site and Eligibility of a Railroad by Danny Walker; Twelve-Mile Creek site in Western Kansas by Rod Laird; Shoshonean Bighorn Sheep Trapping in the Absarokas by Dan Eakin; and Nymph Lake Site by Paul Sanders

Fremont County: Survey – Relocating, mapping, GPS recording several stone formations including one of polished quartzite

Testing/Excavation – Pit Project South Dakota Black Hills Forest Service; Legend Rock; Excavation Ditch Creek South Dakota; Excavation Pavillion County Coroner

Public Education: Public notice of, and invitation to, regular meetings and programs with posters, articles in two newspapers, three radio stations, and TV bulletin board. Events and meetings sent to BLM calendar and pubic invitation issued. Wyoming Archaeology Awareness Month posters and pamphlets to schools, libraries, college buildings and senior citizens' centers.

Work With Other Organizations – Volunteers worked with Forest Service, Bureau of Land Management, and University of Wyoming

Other: Several members serve on the Frison Institute Board. Field trips to Powder Wash, East Fork, and Trail Lake.

June Frison Chapter: Survey – Dell Creek Wetland, Sublette County; Abiathar Prescribed Burn Unit; Yellowstone National Park; Ten Sleep West (WYDOT) Project, Washakie County; Contract Inspection, Shoshone National Forest (Fremont County); Casper Belt Loop, Natrona County; searching for sheep traps and sheep trap remnants in Upper Greybull River Wilderness, Park County

Public Education – Several programs around the state; assisted Reba Teran of Eastern Shoshone Cultural Center in filming educational video focusing on contemporary Shoshone culture; programs on AMKL Ranch, Grand Teton National Park; Dubois Museum; Rocky Mountain Anthropological Conference; WAS Cherokee Trail Chapter; WAS Fremont County Chapter; Eastern Shoshone Tribal Council.

Work With Other Organizations – Worked with federal employees as well as individuals from the Wind River Reservation, Colorado State University, and the private sector

Publications: Rich Adams – short articles on Clovis and Folsom points to *Current Research In the Pleistocene,* supplied content to the National Park Service's wickiup documentation project.

Dan Eakin – *A Class III Cultural Resources Survey of the Dell Creek Wetland Mitigation Area, Daniel-Hoback Junction, WYDOT Project NH-0N13-02(064), Sublette County, Wyoming; A Cultural Resource Inventory of Portions of the Abiathar Prescribed Burn Unit, Yellowstone National Park; A Class III Cultural Resource Inventory of US Highway 16, Worland-Ten Sleep, Ten Sleep West Section WYDOT Project NH-0N36-01(056), Washakie County, Wyoming;* Evidence for Shoshonean Bighorn Sheep Trapping and Early Historic Occupation in the Absaroka Mountains of Northwest Wyoming *University of Wyoming National Park Service Research Center 29th Annual Report* pp.74-86.

Programs Presented: Prehistoric Obsidian Use in Eastern Wyoming by Dr. Charles Reher; Geophysics at Fort Bridger by Rory Becker; The 1879 White River Expedition from Fort Fred Steele by Dr. Mark Miller; Rock Art Around the World by Dr. Mavis Greer; Ukranian Archaeology in the Context of European Archaeology by Olena Fedorchenko; Silk Road Sites and More: China, Kazakhstan and Istanbul by

WYOMING ARCHAEOLOGOCAL SOCIETY, INC.
Treasurer's Report for Fiscal Year Ending March 31, 2008

CHECKING ACCCOUNT - RELIANT FFEDERAL CREDIT UNION	**INCOME**	**EXPENSES**	**BALANCE**
Beginning Balance	$6,280.68	$ 6,280.68	
Deposits	$5,312.36	$ 5,312.36	
Interest Earned	$ 13.20	$ 13.20	
TOTAL INCOME - Checking			**$ 11,606.24**
EXPENSES			
Merback Awards		$ 20.95	
Teton Chapter - Overpayment		$ 26.50	
Wyoming Archaeological Awareness Month		$ 250.00	
John Laughlin - Grant		$ 500.00	
Patrick Mullen - Frison Scholarship		$ 650.00	
Wyoming Archaeological Foundation - Annual Dues		$ 480.00	
Cherokee Trail Chapter - Student Registrations		$ 140.00	
Wyoming History Day		$ 100.00	
James Dixon - Expenses		$ 247.95	
University of Colorado - Dixon Honorarium		$ 300.00	
Adam Weiwel - Reimburse for Conference		$ 50.00	
Bryan Schroeder - Reimburse for Conference		$ 35.00	
Rory Becker - Reimburse for Conference		$ 35.00	
Riviera Lodge - Dixon Lodging		$ 172.70	
Casper College - Postage		$ 42.00	
SAA Annual Dues		$ 30.00	
Casper College - Postage		$ 39.00	
Big Lots - Gazebo - Reimbursed by Danny Walker		$ 200.00	
Casper College - Postage		$ 42.00	
Office Max - Recorder		$ 89.98	
UW Copy Center - Journal		$ 1,651.50	
USPS - Bulk Permit		$ 175.00	
Secretary of State - Corporation Fees		$ 25.00	
Wyoming History Day		$ 100.00	
TOTAL EXPENSES		**$ 5,402.58**	
ENDING BALANCE - Checking Account			**$ 6,203.66**
SAVINGS ACCOUNT			
BEGINNING BALANCE		$ 123.99	
Interest Earned		$ 0.95	
ENDING BALANCE		**$ 124.85**	
MONEY MARKET ACCOUNT			
BEGINNING BALANCE		$ 6,475.48	
Interest Earned		$ 84.92	
ENDING BALANCE			**$ 6,560.40**
CERTIFICATE OF DEPOSIT			
BEGINNING BALANCE		$ 37,775.84	
Interest Earned		$ 1,551.60	
ENDING BALANCE			**$ 39,327.54**
TOTAL NET WORTH AS OF MARCH 31, 2008			**$ 58,420.11**
Total Income		**$ 63,822.69**	
Total Expenses		**$ 5,402.58**	
Net Increase			**$ 1,483.65**

SCHOLARSHIP ACCOUNT

Beginning Balance	$ (7,396.00)		
Deposits (Donations)		$ 500.00	
Scholarships Awarded	$ 650.00		
Ending Balance			$ (7,996.00)

/s/ Carolyn M Buff
Executive Secretary/Treasurer

Carmen Clayton; Footprints Across the Black Rock: Pre-Archaic Toolstone Procurement Patterns in Northwest Nevada by Geoff Smith; Re-examining the Simon Clovis Cache: Novel Approaches and New Findings by Paul Santarone; and Revisiting the Clovis Occupation at the Shawnee-Minisink Site by Joe Gingerich

Other: Depending upon funding, Richard Adams will be taking a crew back to the High Rise Village site to finish documenting this important high altitude occupation in the Wind River range.

Dan Eakin will do non-survey GPS mapping and video photography of know sheep traps on the Shoshone National Forest and Spence-Moriearty Wildlife Unit. Two additional projects will be conducted in Yellowstone National Park (archaeological reconnaissance of Indian Creek and archaeological reconnaissance of selected portions of the Nez Perce Trail).

Sheridan-Johnson County: Public Education – Field trip to Medicine Rocks for ARARA Billings meeting.

Work With Other Organizations – Several members also attended the Island in the Plains conference.

Programs – Operations and Reclamation at the Big Horn Coal Mine by Bob Giurgevich; Geographic Information Systems and Bighorn Mountain Rock Shelters by Mary Lou Larson; Notes from an Egyptian Expedition by Mavis Greer; Cedar Ridge Archaeology by Chris Arthur; White River Canyon Ute Expedition by Mark Miller; Time Detectives: A Walk Back Through Time on the Black Hills National Forest by Dave McKee; Life at 10,800 Feet by Rich Adams; An Archaeological Review of JO-SH WAS Activities by Scott Burgan; The Use of GIS and Geophysics at Fort Pierre Chouteau, South Dakota by Tammy Davis; Southern Siberian Rock Art by Alice Tratebas; and Shoshoni Rodeo Grounds by Dave Eckles.

FORT McKINNEY HOSPITAL BUILDING HISTORIC GRAFFITI DOCUMENTATION PROJECT December 11, 2004

by
Viola Gardner

HISTORY OF FORT MCKINNEY

Fort McKinney was built in the summer and fall of 1878, as part of a regional plan by the Army to create a system of permanent posts from which troops could operate along short supply lines against any Indians who attempted the reoccupation of their old range. Captain Edwin V. Pollock selected the site after considerable study of the county while in command of a post that was first called Cantonment Reno (and for a time named Fort McKinney) on Powder River from 1876 to 1878. The Fort was garrisoned until November of 1894. It was abandoned primarily because the Army, by this time, was developing a new system of larger posts designed to house sizeable units more suited to combat training for the Army's changing strategic and tactical role.

Fort McKinney was placed on the National Register of Historic Places on July 30, 1976.

THE HOSPITAL MAIN BUILDING

This distinctive frame building is a two-story, gambrel-roof structure with dormer windows for the second floor (Figure 1). The second floor appears to have been a single, large, open ward. At this time, the plaster has been damaged through vandalism (historic graffiti), but much of the original plaster and paint survive.

This portion of the building was moved about 200 yards from its original site, and installed on a modern concrete foundation and basement, sometime during the 1940s. The popular story surrounding this move indicates the building was moved using two teams of draft horses and several large timbers; the latter being placed under the building. When the horses had pulled the building a short distance, men would re-position the timbers to allow the building uninterrupted progress down the hill.

The Hospital Wing structure originally formed the east end of the hospital. It to is a gambrel-roofed two story structure that is a sort of scaled-down version of the main building. This building was moved to a location 1,000 feet southwest of its original locations, installed on a new foundation and refinished on its first floor as a dairy barn.

PROJECT

The goal of the project described here was to document all graffiti, both historic and contemporary, as a means of preservation. The building is scheduled to undergo a major renovation which will effectively destroy any remnants of the building's past. The recording project focused on the second floor, as that was where the bulk of the changes will be made.

We gained access to the second floor by an extension ladder, which has been placed in a hole cut in the ceiling of the main hallway. The ceiling is approximately 15 feet in height, and the hole is approximately 4 foot square. All of the equipment was either carried up the ladder or hoisted up the ladder using ropes.

The room(s) were measured and assigned

Figure 1: View of West end and Southern facing porch of Hospital Building. 12/14/04.

numbers, beginning in the Southwest Corner. Individual walls have single numbers, 1 through 13, the dormer alcoves are numbered D1 through D6, with note made to which wall by indicating north south east or west portion, and the small rooms are numbered Rm1 through Rm4. It must be noted there was no graffiti found in the small rooms.

We photographed each panel and hand recorded the graffiti, beginning with Wall 1 on the west end of the south wall and proceeding counter-clockwise around the room until we reached Wall 13, which is on the south end of the west wall.

The graffiti was either etched into the plaster, or written on the wall using pencil, pen and even markers. The earliest inscriptions were a mixture of names and dates, with later inscriptions becoming grossly obscene (just this writer's opinion). The obscene inscriptions appear to be the work of just one writer, Joe Vincent. A cursory review of local records did not reveal any families with the last name of Vincent, so it could be presumed Mr. Vincent either left the area, or does not have any family currently residing in Buffalo.

The name Verl (Verle) Matteson appears more than once. It was learned through his great-nephew that Mr. Matteson was sent to Europe during WWI and died in France of influenza during the war.

The name James K. Potts also appears more than once. His son, James C. Potts also left his mark on the building, during his tenure as a maintenance worker at the Veterans' Home of Wyoming. James C. Potts told me a story his father had related to him regarding growing up in Buffalo. He said his father used to fish for the women of the houses of ill-repute in Buffalo. The women would tell him they were having guests for dinner, and James K. would walk up Clear Creek and catch fish for them. He was paid 10 cents per fish. The hospital building is not located far from Clear Creek. James C.

stated he asked his father about signing his name in the hospital building, he said his father denied any knowledge of the act. As he either denied writing his name, or forgot about the incident, he did not have an answer regarding how he accessed the 2nd story of the building. James C. told me his father, James K. would have been in junior high school in 1917. Nearly 70 years separates the two Potts inscriptions.

Other names that appeared in the building have had access to the building through their association with the Veterans' Home of Wyoming. Doug Jennings is the current Maintenance Supervisor, and has worked at the Veterans' Home (formerly Soldiers and Sailors Home) for approximately 25 years. Al Tolman currently lives in Buffalo and owns a construction business. Howard Turk worked for Knepper Electric and eventually opened his own business, Howard's Electric.

ACKNOWLEDGEMENTS

Project Leader for this work was Dr. Jason LaBelle, then an Archaeologist for Western Land Services in Buffalo. He is presently Assistant Professor of Anthropology at Colorado State University in Fort Collins. The rest of the team included BJ Earle, Archaeologist, BLM Buffalo Field Office, Scott Burgan, President, WAS – Sheridan/Johnson Co. Chapter and Viola Gardner, Secretary, WAS – Sheridan/Johnson Co. Chapter.

REFERENCES

Fort McKinney Preservation Concepts – Western Interpretive Services, Sheridan, WY 1977

National Register of Historic Places Inventory – Nomination Form, Item Number 7, page 2

Viola Gardner
Buffalo Chapter, WAS
Buffalo, Wyoming

Table 1: Documented graffiti

LOCATION	CAMERA	GRAFFITI
Wall 1	SB-4	*main photograph of wall*
	SB-5	*main photograph of wall*
	BJ-80/81	*small scratching on wall – no real graffiti*
Dormer 1-W **FIGURE 2**	BJ-78	"Walter Taylor" *inscribed on wal*l
	BJ-77	"James C. Potts 2/5,1987" "E.R. Leon"
	BJ-79	"Of All beasts that roam the wood I'd rather be ***** stick my tail between for ever more"
	BJ-75/SB-14/JL-14	"James K. Potts Dec 26, 17"
	BJ-76	"Fools names as well as fools faces always seen in public places" Signed by "OLD CRAZY"
	BJ-73/74	"DP Edward"
Dormer 1-E	BJ-71	"Fred Bulter" "Verle Matteson" "1920"
	BJ-70	*scratches*
	BJ-69	"Fred Butler" "Jim Potts"

Figure 2: Dormer 1 West Wall.

		various artistic endeavors
	BJ-68	***** "Is a son of a Bitch"
Wall 2	BJ-67	"EH"
	BJ-66	"Adolph Gardiner DEC. 1911"
		"Fred Butler"
		various artistic endeavors
	BJ-65	"Jeammett"
		"James White"
	BJ-64	"L.E."
		"Annette Long"
		"Kate"
		"Mary Jennings" *(attempts had been made to scratch out this name)*

Dormer 2-W	BJ-62	"H.A. Opperson"
		"Prvt of A.Co.Ng.M.
		"Walt Taylor"
	BJ-61	*various artistic endeavors*
	BJ-60	"JKP Dec XXVI"
	BJ-59	"H.A.W. Oct. 31-15"
	BJ-58	"Dorothy Coleman"
		"Miss Marie D. Bingaman"
		"Miss Marie Dorothy Coleman"
		"Guiy Louis"
		"Frank Valentine Coleman"
		"Buffalo Wyo"
		"Box 141"
Dormer 2-E	SB-6	"R E Kearney"
	BJ-57	"Claric"
		"Howard"
		"John"
		"Lilie"
		"M M H"
	BJ-55	"L.W. Prvt W 12 Cav"
		"Mary White"
		"Jean Lang"
		"Tukey"
Wall 3	BJ-54	"C.F. Baumer Pollock, MO"
	BJ-53	"Paul Vincent"
		"Carl Kube = C.K."
	BJ-52	*drawing of tulips*
	BJ-50	"AdoLPH GARdiNER"
		"Feb 5, 1920"
	BJ-49	"Dorwin D."
		"John Da LLFLL"
	BJ-48	"Alan + Jeri Tolman Lived in S.E. Apartment 1986"
	BJ-47	"Al Tolman"
		"Doug Jennings"
		"Jim Potts"
		"2-5-1987 Good luck"
	BJ-46	"Doug Jennings 1979"
		"WLT"
		"AIG"
	BJ-44	"11" "13" "12" "14" *(these numbers were written in a Tic-Tac-Toe-type box)*
Dormer 3-E **FIGURE 3**	BJ-43	"F.R.B."
		"DEC"
	BJ-42	"FRB Jim Potts"
		"1920"
		various artistic endeavors
Wall 4	BJ-41	"Signed Gen Custer 1857"
	BJ-40	"Lisle C. Mayne"
		"Hole in th" *****
		"M Mie III E."

Figure 3: BJ Earle in front of Dormer 3.

	BJ-39	"A.G.W." "LH. SC HD" *(arrow pointing from LH to A.G.W) (arrow pointing to HD)*
	BJ-38	"F.S."
Dormer 4-W **FIGURE 4**	BJ-37	*scratches*
	BJ-36	"Another Wall vs Potts 1929" "Adam Mayne"
	BJ-35	"Ed Long 12-10-79"
	BJ-34	"Edith West"
Dormer 4-E		BJ-33 *hodgepodge of indecipherable names* "Mary 1914"
	BJ-32	"John West Stanley" "Vivienne West Taylor" "Edna Mead" "Allen Wilkerson"
	BJ-31	"Alta A."
	BJ-30	"Dewey Baxter July 22 1914"
	SB-7	*photo of window sill (dead flies)*
	SB-8	*photo of ceiling (more dead flies)*
Wall 5 **FIGURE 5**	BJ-29	"I ver ***** old ***** in the bank of 25.00" "Robert D"

Figure 4: Photo of Dead Flies – Dormer 4.

Figure 5: Wall 5 behind Jason, Wall 6 behind Vi.

Wall 6 **FIGURE 6**	BJ-28	"Right Nov Stanley"
Wall 7 **FIGURE 6**	BJ-27	"DA"
Wall 8	BJ 26/25	"REX HuGhES" "NEIL REIMAN" "MAX Hayden"
	BJ-24	"The Crimpy Kid"
	BJ-23	"WhoRE NIR" "W.M.F." "M.M.H" "JC"
	BJ-22	"I will give any for Yours Trully Russell Silbuyn"
Dormer 5-E	BJ-21	"HG"
	BJ-20	*Drawing of woman's private area and word* "Fool"
Dormer 5-W	BJ-19	"James If you ARE Better To the *****" *also a math long division problem*
	BJ-18	"FP6"
Wall 9	BJ-17	"Russell Silbring" "BUD Sumner"
Dormer 5-E	BJ-16	"Verle MATTESON June 5 1912 Buffalo, Wyo."
	BJ-15/ SB-16/JL-16	"F.U. Buckley"
FIGURE 7		"A way down south Where the grass grows green a tom cat sat on a sewing Machine

Figure 6: View of East End of Room – Walls 6-7 in background.

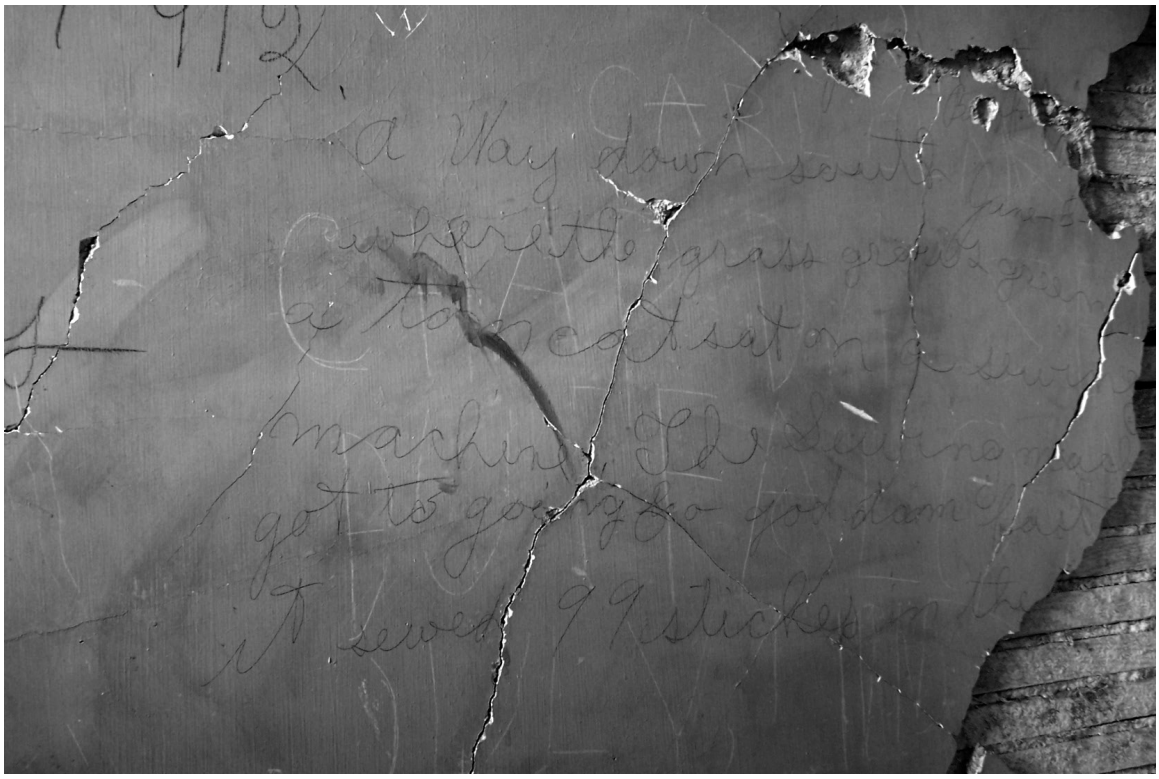

Figure 7: Dormer 5; East Wall: The Tom Cat Poem.

		the sewing machine got to going to god dam fast it sewed 99 stiches in the" *****
Dormer 5-W	BJ-13	"Owe An W 1920 JKP ILW 1920 "If you want to s____ Rest your elbows on *****" "Old ***** just came to town the hair around his ass is as black as hound he has a p____ on him with the skin on the end and is always wanting a f___ butt has no p_____ to lend." "He f____ a girl her home was ***** Joe he has a cock he f_____a girl and so did."
Wall 10	BJ-11	"The Sheep herder wa***** and immediately process* the sheep gave a bla***** the dog gave a ba***** the owl sat in view of the*****"

	BJ-10	"Doug Jennings+ Al Tolman 1987 Said F____ it Do to lack of interest"
	BJ-9	"BRE"
	BJ-8	"Of all the boys in Buffalo I would rather be a scolar I would Joe Vincent Split a ***** c____ cleaning to there"
	BJ-7	"Helen White"
	BJ-6	"Howard Turk J.G. Knepper Elec. 1949"
	BJ-6	*drawing of mountains*
	BJ-4	"I knew a boy his name is bc and every time he takes a p____ no p_____ you can see He said I am alright if I do f____ my sister but when he goes in the bar he jack off and said come Blead or blister"
	BJ-5	"R.S." "Joe Vincent" "RZ4" "OLDMAN MOROBALL Sitting on" *****
Wall 11		*most, if not all, plaster was missing from this wall*
Wall 12	BJ-3/ JL-11	"Willard Hively March 1914" "Old Joe Vincent took a walk up the creek He had a p_____ on him bigger than a stick by his side walked a girl how the hairs around her c_____ did curl He took into the brush he shot of slu *****
	BJ-2	"Katie DWV" "Katie King"
	BJ-1	*drawing of Hitler – we think*
	SB-11	"March 1914" "Willard Hively" "Verl Matteson"
FIGURE 8	SB-12-13/JL-13	*drawing* "At Uord"

***** = missing plaster; Cameras: BJ = BJ Earle SB = Scott Burgan JL = Jason LaBelle

Figure 8: “At Uord” Portrait.

Figure 9: The Crew, resting on the Northeast porch, after the project.

LITHIC ARTIFACTS OF THE FIREHOLE BASIN SITE (48SW1217)

by
Patrick M. Lubinski, Lowell T. Evans,
and Michael D. Metcalf

ABSTRACT

Despite the central role of the Firehole Basin site in the conception of the Firehole phase in the Wyoming Basin, the lithic assemblage has never been reported. Excavated in 1976 and 1977, the site yielded chipped and ground stone, pottery, abundant faunal remains dominated by pronghorn, and two radiocarbon dates (625 ± 50 and 645 ± 45 RCYBP). Identifiable projectile points from the excavations consist of two tri-notched, two side-notched, and three unnotched arrow points. A Rose Spring point was found on the surface in 1999, and is presumed unrelated to the excavation. Points, a possible Shoshone knife, other tools and debitage were composed of a variety of raw materials, including chert, chalcedony, quartzite, and a trace amount of obsidian from the Teton Pass source. In general the Firehole Basin site lithics conform to the expectations for the Firehole phase.

INTRODUCTION

The Firehole Basin site (48SW1217) was the inspiration for the Firehole phase, the terminal prehistoric period of Wyoming Basin Prehistory as proposed by Metcalf (Zier et al., 1983, Metcalf 1987). At the time the chronology was proposed, the site was one of the few excavated sites dating between 1000 and 300 RCYBP in the Wyoming Basin. Despite the obvious relationship of the site to the proposed phase, the lithic artifacts have never been analyzed, and the goal of this paper is to provide that description.

The Firehole Basin site is about ten miles southwest of Rock Springs, Wyoming near Flaming Gorge Reservoir in Sweetwater County. It lies at about 6800 foot elevation, on a low ridge between the Green River and Little Bitter Creek. The ridge is mantled with aeolian sand, and covered with sparse sagebrush and juniper. Surface artifacts, including chipped and ground stone, bone, and pottery, cover an area more than 100 by 50 m in size.

The site was discovered by the late George Babel, and brought to professional attention by Mr. Babel and the late Joe Bozovich, both members of the Wyoming Archaeological Society. It was originally recorded in 1976 as Firehole Basin #11 by a crew from Western Wyoming College while they were conducting a nearby coal sampling survey (Metcalf 1977). Test excavations were conducted in the fall of 1976 and fall of 1977 by the Sweetwater Chapter of the Wyoming Archaeological Society and the Western Wyoming College Archaeological Field School. Mike Metcalf directed the fieldwork, and an initial discussion was provided by Metcalf and Treat (1979). After completion of the 1977 field season, no work was undertaken until 1999. The 1999 investigation consisted only of a surface inspection and collection of one projectile point and two ceramic sherds from the surface.

In total, about 34 test units were excavated to a maximum depth of 5 to 50 cm. All exca-

vated sediments were quarter inch screened. The excavated portion of the site consisted primarily of a bone midden exposed at the surface and shallowly buried in aeolian sands. Artifacts recovered from the excavations included a large number of bone fragments, plus ceramics, projectile points and other chipped stone tools, chipped stone debitage, ground stone, and bone artifacts. Although there were several charcoal stains and possible posts, no definitive indicators of structures or firepits were found. Two historic artifacts (SW1217-789 and 790), both Winchester 9 mm Luger bullet cartridges, were collected near surface (0-3cm and 3-10cm, respectively) in Test Pit 4.

Two radiocarbon dates were obtained. One was based on a charcoal sample from the bone midden, while the other was based on a charcoal sample from the main ceramic concentration. The bone midden sample returned an estimate of 625 ± 50 RCYBP (UGa-2049), and the ceramic concentration sample returned an estimate of 645 ± 45 RCYBP (UGa-2048).

The recovered fauna is dominated by pronghorn (*Antilocapra americana*), with a minimum of 433 specimens and 26 individual animals specifically identified as pronghorn, and an additional 5397 specimens in the size range of pronghorn. Other identified specimens include four jackrabbit (*Lepus* sp.) bones, three pocket gopher (*Thomomys* sp.) mandibles, one cottontail rabbit (*Sylvilagus* sp.) humerus fragment. An initial discussion of the fauna has been provided (Lubinski 2000; Lubinski and Metcalf 1996), and a fuller discussion is in preparation.

The ceramic assemblage of 180 sherds has been reported by Middleton et al. (2007). The ceramics are plain or finger tip-impressed and exhibit grit or sand tempering. They are similar to Uncompahgre Brown Ware, typically identified in Colorado and eastern Utah (Buckles 1971; Reed and Metcalf 1999) and the Waltman Brown Ware proposed for the Carter site in central Wyoming (Martin 2000). They are not Intermountain Ware as originally conceived (Coale 1963; Mulloy 1958).

The lithic assemblage includes all of the extant material collected during the 1976-1977 field season (n=194), and a surface collection made in 1999 (n=1). An additional four chipped stone artifacts collected from the surface and analyzed in 1983 (catalog numbers FB11-31 through 34), including a preform, a biface, and two flakes, could not be found and are not included here. The total here includes 35 chipped stone tools/tool fragments, 150 pieces of chipped stone debitage, six pieces of possible ground stone, one piece of fire cracked rock (FCR), one perforated fossil, and two unmodified stones for a total of 195 lithic artifacts. Chipped stone tools include 13 projectile points, 14 bifaces and bifacial fragments (when conjoined), three unifacial scrapers, one drill (conjoined from two fragments), and one core.

Firehole Basin lithic material was analyzed and placed into categories of chipped stone and ground stone. Chipped stone tools were described in terms of morphology, completeness, metric dimensions, and raw material. Morphological traits were used to place chipped stone tools into categories of projectile point, biface, scraper, and drill. Where possible, projectile points were assigned to arrow or dart class by comparison to the neck width data from Shott (1997), which also includes the data from Thomas (1978). Artifacts with neck widths of less than 8.6 mm were categorized as arrows (outside the 95% confidence interval for 39 darts) and more than 15 mm as darts (outside the 95% confidence interval for 130 arrows). All measurements were taken to the nearest 0.1 mm using digital calipers. Raw material was recorded as chert (opaque cryptocrystalline rock), chalcedony (translucent cryptocrystalline rock), quartzite (visible grain), or obsidian.

PROJECTILE POINTS

All bifaces and bifacial fragments with hafting elements were considered projectile points in this analysis. The projectile points were clas-

sified according to temporally defined projectile point styles from the Great Plains, Great Basin, and Intermountain regions as appropriate. Measurements used for projectile points were taken as described in Table 1 and Figure 1.

The 13 projectile points from the Firehole Basin site include two small tri-notched, two small side-notched, three small unnotched, and one Rose Spring point (see Figure 2 and Table 2). All eight points are considered arrow points based on overall size and, if notched, by comparison of neck width with measurements in Shott (1997), and Newton (2006). Five other specimens either do not fall directly into a defined type, or were broken in such a way to prevent classification.

Two specimens (FB11-13, FB11-27) are tri-notched arrow points, with side-notches and pronounced central basal notches. In southwestern Wyoming, such points are commonly referred to as "tri-notched" (McNees 1992:30-42; Thompson and Pastor 1995) and sometimes as Desert Side-Notched (Hoefer et. al 1992:56). In Northern Utah such points are referred to as Desert Side Notched (Wilson 1997:46; Holmer and Weder 1980:57). Small side-notched points and tri-notched points both are referred to as Desert Side-Notched (DSN) in the Great Basin, northern Utah, and western Colorado (Holmer 1986:107; Holmer and Weder 1980:60; Jennings 1986:118; Reed and Metcalf 1999:159; Thomas 1981:16; Wilson 1997:46). The tri-notched variety has been called Sierran DSN in the Sierra Mountains of California (Baumhoff and Bryne 1959:37). On the Great Plains, similar tri-notched points are referred to as a basal notched variety of the Plains side-notched point

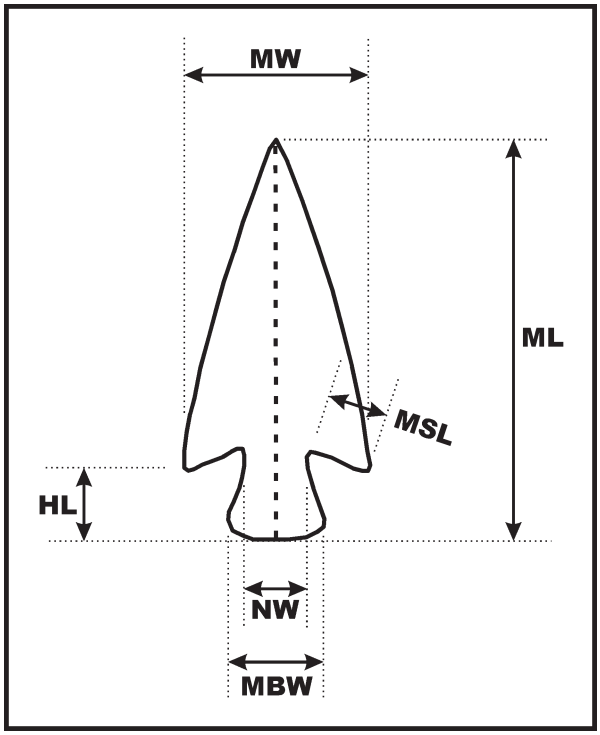

Figure 1: Measurements used for describing projectile points. See Table 1 for explanation of abbreviations.

Table 1: Measurements used for projectile points.

ABBREVIATION	MEASUREMENT	DESCRIPTION
ML	Maximum Length	Length from the most proximal to most distal end of the tool
MW	Maximum Width	Taken at maximum width at a point perpendicular to the long axis
MT	Maximum Thickness	Taken at maximum thickness in plane perpendicular to ML and MW
NW	Minimum Neck Width	Most minimum width of projectile point neck or stem taken perpendicular to the long axis
MBW	Maximum Basal Width	Most maximum width of point base measured perpendicular to the long axis
MSL	Maximum Shoulder Length	Maximum length from the NW position to the lateral shoulder or barb corners, taken parallel to the proximal shoulder or barb margin
HL	Haft Length	Measured along the long axis from the most proximal margin of the base to the position of the MW

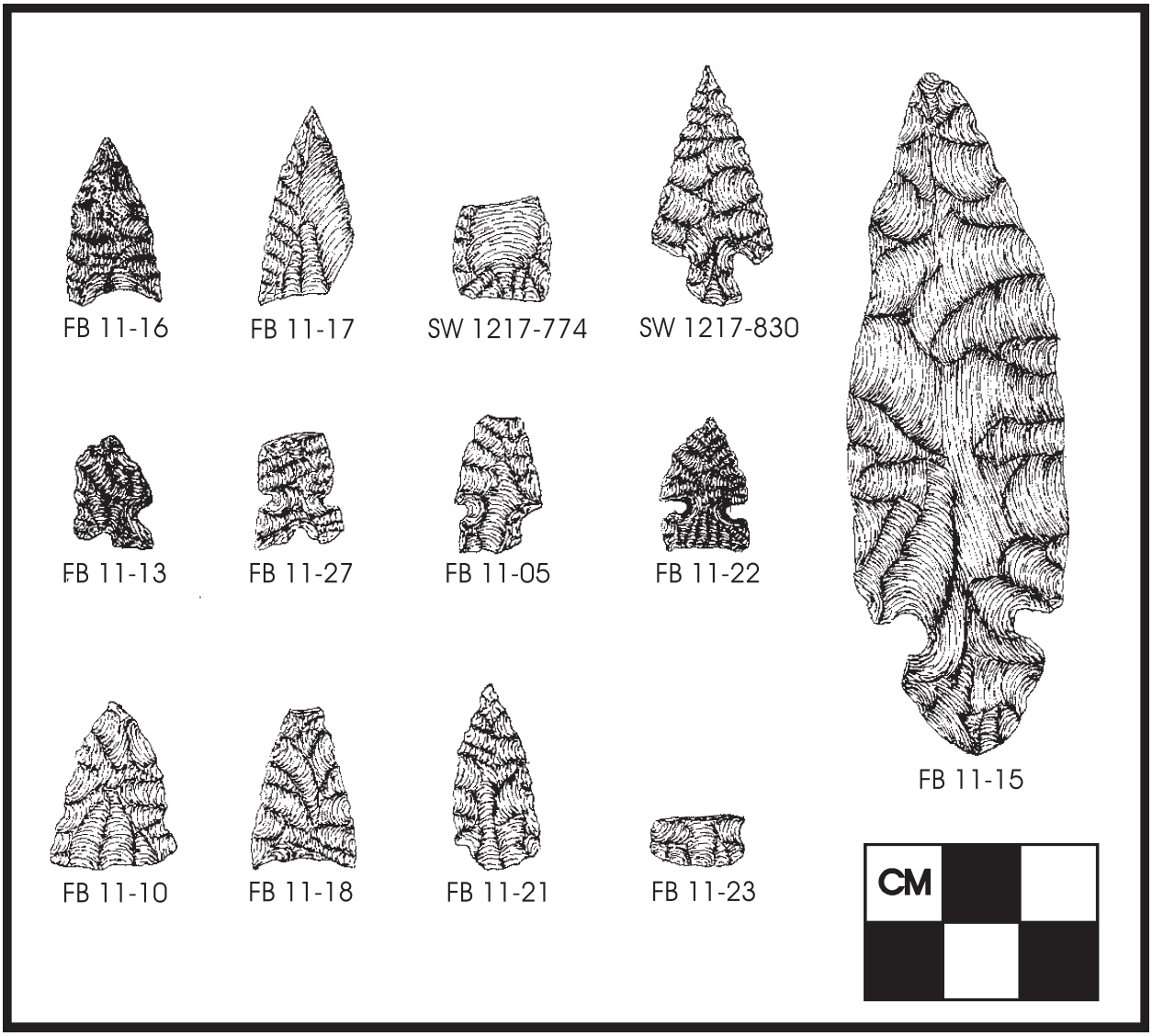

Figure 2: Projectile points. Top Row: unnotched arrow (FB11-16, FB11-17, SW1217-774), Rose Spring (SW1217-830). Middle row: tri-notched arrow (FB11-13, FB11-27), small side-notched (FB11-05, FB11-22). Bottom Row: reworked large side-notch (FB11-10), unidentified arrow points (FB11-18, FB11-21), unidentified basal fragment (FB11-23). Far Right: "Turkey Tail" (FB11-15).

(Kehoe 1966:833).

Specimen FB11-13 is a nearly complete tri-notched arrow point made of black obsidian. The distal point appears to be snapped off. One lateral edge is damaged or broken, resulting in a missing barb, yet the arrow point still displays evidence of a side notch on this lateral broken edge. Artifact FB11-27 is a proximo-medial fragment of a tri-notched arrow point; the distal tip has been snapped off. It is composed of a lustrous, semi-translucent dark brown chert and exhibits finely controlled pressure flaking.

Two other projectile points (FB11-05, FB11-22) are small side-notched arrow points, with moderately high side notches and straight bases. In Wyoming, such points are referred to as small side-notched (Frison 1971:271, 1973:251; McNees 1992:30-42), DSN (Pastor and Thompson 1995:59, Hoefer et al. 1992:56), or Plains side-notched (Martin 2000:307).

Table 2: Projectile points.

CATALOG NUMBER	FORM	FRAGMENT MATERIAL	RAW	COLOR	ML	MW	MT	MNW	MBW	MSL	HL
FB11-05	small side-notched	Near Complete	Chert	Gray	18.4*	11.5	2.7	7.5	8.1*	2.3	5.6*
FB11-10	unknown side notched	Complete	Chalcedony	Brown	21.7	17.5	5.7	14.2	17.5	NA	5.3
FB11-13	tri-notched arrow	Near Complete	Obsidian	Obsidian	15.7	10.4	2.7	4.3	5.1	2.6	5.5
FB11-15	unknown "turkey tail"	Complete	Chert	Gray Banded	88.1	29.7	12.0	12.7	18.0	4.7	17.3
FB11-16	unnotched arrow	Complete	Chert	Gray	21.4	12.3	3.1	NA	12.3	NA	NA
FB11-17	unnotched arrow	Near Complete	Quartzite	Gray	24.3	12.8*	2.9	NA	9.6*	NA	NA
FB11-18	notched or stemmed arrow	Medial	Quartzite	Gray	21.4*	14.1	3.0	<8.0*	NA	2.6*	NA
FB11-21	notched or stemmed arrow	Medio-Distal	Chert	Gray	24.5*	11.3	4.1	<6.8*	NA	2.0*	NA
FB11-22	small side-notched	Complete	Chalcedony	Brown	17.5	11.4	3.3	5.9	11.3	2.6	6.6
FB11-23	unknown stemmed	Proximal	Chert	Gray	6.8*	13.0*	3.9*	11.2*	13.0	NA	5.4*
FB11-27	tri-notched arrow	Proximo- Medial	Chert	Dark Brown	14.9*	11.3	2.1	6.4	11.6*	1.4	7.4
SW1217-774	unnotched arrow	Proximo-Medial	Quartzite	Gray	13.5*	12.8	3.2	NA	11.4	NA	NA
SW1217-830	Rose Spring	Complete	Chert	Brown and Tan mottled	31.4	15.5*	2.7	5.2	6.6	2.8*	6.6

* = incomplete in this dimension
NA = not applicable to this specimen

These points are referred to as DSN arrow points in the Great Basin, northern Utah, and western Colorado, but we use the term "small side-notched" to avoid confusion with tri-notched types. On the Great Plains, Kehoe (1966:833) names a similar arrow point: Plains side-notched.

FB11-05 is a near complete small side-notched arrow point made of an opaque gray chert. It exhibits a very subtle basal indentation (less than 0.3mm), too subtle to be considered a tri-notched point. The distal tip has been snapped off, and the barbs have been damaged. FB11-22 is a complete small side-notched arrow point made of lustrous, translucent brown chalcedony with some very small black inclusions. The base of FB11-22 is straight but the blade portion is slightly asymmetrical.

Tri-notched and small side-notched arrow points broadly similar to those from Firehole Basin are found throughout the Rocky Mountains, Great Basin, and Great Plains in late prehistoric times. In Wyoming, such points are associated with the Firehole phase from approximately 650-250 RCYBP (Pastor and Thompson 1995:59), but small side-notched points also are recovered in a few earlier assemblages, such as Wardell at 1580-990 RCYBP (Frison 1973). In western Colorado, these points occur from 2050 to 200 RCYBP based on C14 dated components reported by Reed and Metcalf (1999:147-148). In northern Utah, they occur from about 800-200 RCYBP (Holmer 1986:105) or 1000-250 RCYBP (Johnson and Loosle 2002:271). All of these age ranges are consistent with dates reported for Firehole Basin at 645 and 625 RCYBP. On the Great Plains, similar Plains side-notched points may occur somewhat

later, from approximately 400 to 200 RCYBP (Kehoe 1966:833).

Three unnotched triangular arrow points (FB11-16, FB11-17, SW1217-774) were recovered from the site. In Wyoming, these points are sometimes referred to as unnotched arrow points (McNees 1992:30-42; Frison 1971:270), and sometimes as Cottonwood Triangular arrow points (Martin 2000:307; Pastor and Thompson 1995:59), based on favorable comparison with Cottonwood Triangular projectile points originally defined by Lanning (1963:252-253) for California. Throughout northern Utah, western Colorado, and the Great Basin, these points are commonly named Cottonwood Triangular (Holmer 1986; Jennings 1986; Reed and Metcalf 1999:143).

Cottonwood Triangular points generally are associated with the Firehole phase in southwestern Wyoming from 650-250 RCYBP (Pastor and Thompson 1995:59), although some occur in assemblages as early as 1020 RCYBP (McNees 1992:Table 30.15). Such points occur in western Colorado from 2130-560 RCYBP, based on radiocarbon-dated components reported by Reed and Metcalf (1999:147-148). In the Great Basin, Holmer (1986:106) identifies Cottonwood triangular points as occurring from 1000-200 RCYBP, while Johnson and Loosle (2002:271) note they occur from approximately 1000-250 RCYBP in the Uinta Mountains. All of these age ranges are consistent with dates reported at Firehole Basin.

Specimen FB11-16 is a complete unnotched arrow point composed of an opaque gray chert. It exhibits slightly convex blade margins and a concave basal margin. FB11-17 is nearly complete, with one of the basal lateral margins missing. It is composed of a lustrous gray quartzite and exhibits slightly convex blade margins and a concave basal margin. SW1217-774 is a proximo-medial fragment with the distal tip snapped off, slightly convex blade margins and a straight base. It is composed of a lustrous gray quartzite.

Specimen SW1217-830 compares favorably with Rose Spring projectile points originally reported by Lanning (1963) for California. In Wyoming and northern Utah, these points are referred to as Rose Spring (Hakiel et al. 1987; Pastor and Thompson 1995:59; Schock et al. 1982; Wilson 1997:46), and sometimes simply as corner-notched (Frison 1971:270). Rose Spring points are considered one end of the Rosegate series (Rose Spring and Eastgate continuum) in the Great Basin (Thomas 1981), and this term is used in western Colorado (Reed and Metcalf 1999). These are broadly similar to Avonlea style points in the Great Plains (Kehoe and McCorquodale 1961) but do not closely resemble them. The SW1217-830 specimen exhibits serrations along the blade edge and is made from brown and tan mottled chert.

Rose Spring or Rosegate points date to the early Late Prehistoric in the region, with proposed ranges of 1300-850 RCYBP for the Wyoming Basin (Metcalf 1987:248), 2600-950 RCYBP for western Colorado (Reed and Metcalf 1999:160), and 1650-700 RCYBP in the Great Basin (Holmer 1986:106). These age ranges are not quite consistent with 48SW1217 radiocarbon estimates of 645-625 RCYBP. Since this point was recovered on the surface it probably is unrelated to the excavated bone bed. Rose Spring projectile points are considered to be diagnostic of the Uinta phase (preceding the Firehole phase) in southwestern Wyoming (Pastor and Thompson 1995:54; McNees 1992).

UNTYPED PROJECTILE POINTS

Five points from the Firehole Basin site are not placed into types due to fragmentation preventing identification or due to a form unusual in the region. Two of these specimens (FB11-18, FB11-21) are broken arrow points based on overall size and estimated neck width. The remainder include a reworked dart point (FB11-10), an anomalous "turkey tail" (FB11-15), and an unidentified fragment (FB11-23).

Two specimens (FB11-18, FB11-21) are

arrow points broken so the hafting element is missing but with remnant distal notch or stem edges permitting neck width estimates less than 8 mm, consistent with arrow points by comparison to Shott (1997), and Newton (2006). Both are broken across the haft so it is unclear if they are notched or stemmed. FB11-18 is a medial fragment retaining small shoulder barbs, while FB11-21 is a medio-distal fragment retaining small right-angle to oblique shoulders.

A complete, reworked, large side-notched point (FB11-10) is made of brown chalcedony. With a neck width of 14.2 mm, this projectile point falls into the dart class rather than the arrowhead class when compared to Newton's (2006) small Plains sample, but among large arrows and small darts in Shott's (1997) larger national sample. This point appears reworked due to the thickness, large neck width, small blade size, and evidence of rejuvenation. Artifact FB11-10 may be a case of Firehole phase reuse of an earlier point (c.f. Flenniken and Wilke 1989).

Artifact FB11-15 is much different than the rest of the hafted bifaces from the site. Its outline broadly resembles the Turkey Tail point defined in the Great Lakes region (Justice 1987:175-178), but it is not a finely flaked specimen as is typical there. While it is bipointed and side-notched to provide a "turkey tail" base, it is strongly plano-convex, almost triangular, and thick in cross section. The flaking on the convex side (depicted in Figure 2) extends over all of the artifact face, but on the flat side, flaking is limited to the margins. The artifact also exhibits an arcuate longitudinal section, probably a remnant of the large flake from which it was made. It is composed of an opaque gray chert with streaks or bands of gray and brown resembling petrified wood. With a neck width of 12.8 mm, the point falls among large arrows and small darts when compared to Shott's (1997) sample, but its plano-convex cross section and large size seem more consistent with a knife form. All edges of the blade are heavily worn or ground (even flattened up to 1.7 mm wide at the edge), while the base is apparently unworn. Similar hafted bifaces, with the distinctive low side notches and pointed bases, often resharpened and thought to be knives, occur rarely in southern Idaho (Lohse 1993, personal communication 2007).

OTHER STONE ARTIFACTS

Other chipped stone tools recovered from the site include six complete bifaces, eight biface fragments, three unifacial scrapers, a drill, and a core (see Tables 3 and 4). The bifaces (Table 3) are mostly finished or nearly finished specimens, although there is also a flat river-rolled pebble with edge modification (conjoined from SW1217-798, 800, and 806). Included are five specimens which may be projectile point fragments, including two possible arrow point tips (FB11-01, SW1217-829), two possible arrow point bases (SW1217-778, SW1217-828), and a possible dart tip (FB11-19). The three scrapers all exhibit steep, unifacially retouched semicircular ends, but range from a small, finely made piece (FB11-02) to more expedient, battered, split quartzite pebble (SW1217-803). The single drill, conjoined from two pieces (FB11-20 and SW1217-826), is made by bifacial flaking of the projection on an otherwise minimally modified wide flake.

Artifact FB11-08 is a gray chert biface with some unusual characteristics, including unifacial resharpening along the upper half of one lateral edge resembling beveling as is common in some knife forms. It compares favorably with a beveled biface reported by Frison (1971:Figure 4b) from the Eden-Farson site. The reworked Firehole Basin specimen has hints of a shoulder, but does not exhibit the pronounced shoulder and extensive resharpening characteristic of Shoshone knives reported by Eccles (1997). However, given its similarity to the Eden-Farson specimen found with classic resharpened forms by Frison (1971), it could represent a lightly used Shoshone knife.

Table 3: Bifaces.

CATALOG NUMBER	PORTION	RAW MATERIAL	COLOR	ML	MW	MT	DESCRIPTION
FB11-01	Tip	Chert	Gray	15.8*	10.7*	3.4*	Finely flaked tip fragment, nearly unifacial; probably arrow point tip
FB11-07	Complete	Chert	Mottled gray & brown	89.9	70.0	12.6	Near-circular preform with lightly polished edges
FB11-08	Complete	Chert	Gray	88.9	34.3	9.9	Lanceolate shape with heavy edge use; possible Shoshone knife (see text)
FB11-09	Complete (?)	Chalcedony (moss agate)	White & black	26.2*	19.0	6.9	Near-finished, pointed distal tip with opposite end flat cortex or rock flaw
FB11-19	Medio-Distal	Chert	Mottled gray & brown	27.5*	17.4	5.0	Finely flaked, pointed finished biface; probably point fragment
SW1217-222	Medial	Chert	Blue/Gray	27.3*	28.6*	7.0*	Preform or finished biface exhibiting heat damage and lateral use-wear
SW1217-772	Complete	Chalcedony (moss agate)	Gray & black	38.5	16.7	8.2	Near-finished biface with pebble cortex on tip and one lateral margin
SW1217-777	Edge	Chert	Brown	26.5*	17.2*	6.3*	Straight finished biface edge
SW1217-778	Medio-distal	Chalcedony (moss agate)	Gray & black	16.8*	14.0*	3.5	Finely flaked square base of arrow point perform or unnotched arrow point; snapped diagonally into 2
SW1217-784	Edge	Chert	Purple-gray	19.8*	21.2*	9.6*	Shatter fragment with minimally bifacial edge flaking.
SW1217-797	Complete (?)	Chert	Gray	43.3	29.6	9.3	Flat, cortex-covered and potlid damaged piece with irregular margin retouch leaving significant cortex
SW1217-798 SW1217-800 SW1217-806	Complete (3 pieces)	Quartzite	Gray	71.8	70.5	20.4	Flat, cortex-covered pebble with crudely flaked margins
SW1217-828	Proximal	Chert	Gray	7.6*	13.0*	2.3*	Possible arrow point base fragment
SW1217-829	Medio-distal	Chalcedony	Brown	14.6*	12.7*	2.7	Finely flaked tip fragment; probably arrow tip

* = Incomplete in this dimension.

Table 4: Other chipped stone tools.

CATALOG NUMBER	CATEGORY	PORTION	RAW MATERIAL	COLOR	ML	MW	MT	DESCRIPTION
FB11-02	Unifacial Scraper	Medio-distal	Chalcedony	Brown	13.3*	15.9	5.1	Semicircular flake fragment with steep retouch along all unbroken margins
FB11-20 SW1217-826	Drill	Complete (2 pieces)	Chert	Gray	34.0	22.0	3.3	Wide flake fragment bifacially retouched into fine drill blade 15.1 x 6.5mm in size
SW1217-773	Core	Complete	Quartzite	Yellow	41.3	40.4	26.6	Roughly triangular-shaped, irregularly flaked platform with 8+ flake removals toward smaller cortex-covered distal end
SW1217-803	Unifacial Scraper	Complete	Quartzite	White (pink cortex)	42.8	43.3	16.5	Split pebble with steeply retouched/battered semicircular margin
SW1217-827	Unifacial Scraper	Complete	Chert	Mottled tan & gray	54.7	33.3	16.4	Steep retouch on all but proximal edge

* = Incomplete in this dimension

Shoshone knives have been found throughout Wyoming, Nevada, and Utah in dated contexts from 700-200 RCYBP (Eccles 1997), overlapping the age of the Firehole Basin site.

Chipped stone debitage analysis included placing each specimen into a flake type, raw material category, and size class. Flake type followed Sullivan and Rozen's (1985) technological attribute key, while size classes were recorded using the Western Wyoming College system (Sennett et al. 1991) as I (0-6.99mm), II (7-14.99mm), III (15-29.99mm), or IV (30 or more mm). The assemblage included 150 pieces (see Table 5). The most common raw material type was quartzite (43%) followed by chert (35%), chalcedony (15%), and obsidian (8%). The 12 obsidian flakes were all small (too small for X-ray fluorescence source analysis) and from a single surface collection of an anthill. Most of the debitage (n=111, 75%) was debris or flake fragments lacking proximal ends. The size class distribution of the debitage was: 9% in the 0-7 mm class (n=14), 27% in the 7-15 mm class (n=40), 43% in the 15-30 mm class (n=64), and 21% in the 30 mm or larger class (n=32).

Other stone artifacts collected from the site include a perforated fossil, ground stone and fire-cracked rock. The fossil artifact (FB11-24) is a near-complete, disk-shaped gastropod (snail) with a hole perforated at the central origin point of the shell body whorls. Except for the hole itself, there is no sign of modification. The specimen is 15 x 13 x 4 mm in size, with a hole 1.7 mm in diameter.

Six specimens of sandstone or quartzite were considered probable stone grinding slab fragments based on their smoothed, flattened surfaces (Table 6). These include one definite sandstone mano fragment, four probable sandstone grinding slab fragments, and a possible quartzite mano or slab fragment. Four of these artifacts show classic thermal cracking. Another blocky quartzite fragment (SW1217-801) with fire cracking exhibited two parallel, flat but not apparently smoothed surfaces. Two other

Table 5: Chipped stone debitage.

RAW MATERIAL	FLAKE TYPE	SIZE CLASS I	SIZE CLASS II	SIZE CLASS III	SIZE CLASS IV	TOTALS
Quartzite	Complete	0	1	4	5	10
N=64	Broken	0	0	5	0	5
	Fragment	0	4	9	11	24
	Debris	1	7	11	6	25
Chert	Complete	0	0	3	2	5
N=52	Broken	0	3	2	2	7
	Fragment	0	6	11	3	20
	Debris	1	10	7	2	20
Chalcedony	Complete	0	2	1	1	4
N=22	Broken	0	1	3	0	4
	Fragment	0	6	6	0	12
	Debris	0	0	2	0	2
Obsidian	Complete	2	0	0	0	2
N=12	Broken	2	0	0	0	2
	Fragment	8	0	0	0	8
	Debris	0	0	0	0	0
Totals		14	40	64	32	150

quartzite fragments collected in the excavations do not show signs of modification: SW1217-812 is an angular pebble with a river-rolled, crazed cortex, while SW1217-814 is a rounded pebble or cobble fragment with relatively fresh planar breaks.

OBSIDIAN USE

There was very little obsidian from the site. In the chipped stone debitage, only 12 of 150 specimens (8%) were obsidian, and these were all small flakes recovered from an anthill surface, rather than the ¼" screen from the excavation. None were recovered from the excavations. Among the 35 chipped stone

Table 6: Ground stone.

CATALOG NUMBER	OBJECT	MATERIAL	DESCRIPTION AND DIMENSIONS (ML/MW/MT)
SW1217-783	Fragment	Pink quartzite	Possible smoothing on one flat surface, heavily battered on adjacent unbroken edges; heat fractured (45.4/36.4/35.6 mm)
SW1217-795	Fragment	Orange sandstone	Probable smoothing on one flat surface, otherwise unmodified; heat fractured edges (41.0/39.9/21.4 mm)
SW1217-804	Fragment	Orange sandstone*	Probable smoothing on one flat surface, otherwise unmodified; heat fractured edges (73.2/65.9/25.1 mm)
SW1217-807	Fragment	Orange sandstone*	Probable smoothing on one flat surface, otherwise unmodified (53.2/47.8/23.6 mm)
SW1217-808	Fragment	Orange sandstone*	Probable smoothing on one flat surface, otherwise unmodified (77.1/46.3/25.8 mm)
SW1217-809	Mano fragment	Purple sandstone	Ovoid shape smoothed on both faces, heavily battered on portions of edges; heat fractured across face removing about 1/3 of artifact (65.8/60.8/31.2 mm)

*= covered with tan soil precipitate

tools/tool fragments, only a single point was obsidian (3% of assemblage). Single digit percentages like these are typical of the southwest Wyoming archaeological record. For example, Wyoming Cultural Records Office files show artifacts made of obsidian compose only 1% of the isolated finds in Sweetwater county (n= 4864), with higher percentages in counties to the north and west as one moves closer to northwest Wyoming and Idaho obsidian sources (Sutter and Young 2007)

The single obsidian artifact from Firehole Basin amenable for x-ray fluorescence source analysis was a tri-notched projectile point (catalog FB11-13). Analysis of this artifact by Skinner and Thatcher (2008) indicates it derives from the Teton Pass locality in Teton county, northwestern Wyoming. This source is approximately 170 miles north-northwest of the Firehole Basin site.

The Teton Pass source occurs in variable quantities in Wyoming Basin sites. Three earlier study samples provided a wide range of results. At the lower end of the spectrum, Teton Pass obsidian comprised only one of a sample of 35 obsidian artifacts (3%) from nine excavated southwest Wyoming sites analyzed by Ray Kunselman (Thompson et al. 1997:Table 1). In this study sample, Wright Creek (near Malad, Idaho) and Green River pebble obsidian dominated. In a sample of southwest Wyoming surface artifacts from the same study, the Teton Pass and undistinguished Teton Pass/Fish Creek source composed 14 of the 97 samples (14%), with Wright Creek the single most-common source. At the other end of the spectrum, Smith (1999:Table 1) reports Teton Pass was the single most common source in a sample of Sweetwater county sites analyzed by Kunselman and Skinner. Teton Pass composed 13 of 35 artifacts (37%) from two of the six sites (33%) in this study. The samples from these two sites were comprised of 25 to 75% Teton Pass obsidian (1 of 4 of 48SW211 samples and 12 of 16 of 48SW6324 samples).

THE FIREHOLE PHASE RECONSIDERED

The Firehole phase was originally conceived (Zier et al., 1983, Metcalf 1987) as a temporal unit placed after a dramatic decline in radiocarbon-dated components ca. 1000 RCYBP and before the Protohistoric period at 300 RCYBP. Since this time period corresponded with the disappearance of Rose Spring and other corner-notched points in favor of side-notched arrow points (already present in the preceding Uinta phase) and the appearance of tri-notched points (Metcalf 1987:249), it was considered a provisional phase in the classic sense of Willey and Phillips (1958). There has been little discussion of the validity of the Firehole phase concept (c.f. Creasman and Thompson 1997; McNees 1999), although there has been considerable debate on its proper bracketing ages (e.g., McKibbin et al. 1989; McNees 1992; Thompson and Pastor 1995), particularly whether it should begin ca. 1000 or closer to 700 RCYBP. We favor a 700/650 RCYBP starting date as best representing the time when the individual characteristics (some with earlier dates of initial appearance) coalesce into a distinct entity, and an end date of 300 RCYBP for the onset of the Protohistoric period.

To some degree, the disagreement on the Firehole phase starting date reflects a common issue for the phase concept, which by its nature has somewhat fuzzy boundaries. As a concept strongly tied to attributes of form, which may be time-transgressive across space, it should not be expected to have the crisp dates of a defined chronological period. In the region, the Firehole phase term is used both as a phase with implications for material culture, and as a period with implications only for a set length of time. In this latter use, it clearly is preferable to have a single date ending the Uinta phase and starting the Firehole phase, rather than a transitional period reflecting the loss of distinctive Uinta characteristics and prior to the aggregation of distinctive Firehole characteristics, which might

be preferable for its use as a phase per se.

Regardless of these larger theoretical concerns, the continuing use of the Firehole phase concept indicates its utility. The concept has held up well in light of archaeological research in the past quarter century, as it is marked by a suite of characteristics which seem distinct from the characteristics of the preceding Uinta phase. The clearest change in the region is the replacement of small corner-notched points (e.g., Rose Spring) by side-, tri-, and un-notched forms. The small excavated lithic assemblage from the Firehole Basin site generally reflects this change, with no Rose Spring points and 7 of 7 of the identified assemblage side-, tri- or un-notched arrow points. On the other hand, ceramics, initially thought to be dominated by Intermountain Ware (Metcalf 1987), appear widely variable and not dominated by a single ware in this period (Middleton et al. 2007).

Other aspects of Firehole phase identity are more arguable. Diagnostic tools and site types could include distinctive rib tool hafts, tipi-ring type stone circles and rockshelters (McNees 1992). There may be a shift in land-use patterns from open basin dunal environments of the Uinta phase in favor of wooded uplands and wet drainages. This proposed change is supported by the finding of Desert Side Notched points entirely within juniper/pinyon-juniper or wet drainage environments, rather than sagebrush or dry drainage environments, in the Uinta Basin Lateral Pipeline project (Metcalf and McFaul 2006). Another possibility is a subsistence focus on large mammals, particularly bison (see also McNees 1992:30-44).

All comparisons of the Firehole phase with the preceding Uinta phase are hampered by the relative lack of Firehole phase samples compared to the robust Uinta phase record, with the very real possibility apparent differences are simply due to the limited sample for Firehole phase. But the sample size disparity itself is one of the biggest and most significant differences between the phases. This disparity could indicate a population decline (reflected in fewer radiocarbon dates), reduced use of storage and plant processing (reflected in less dateable pit features), and/or shift in land use (e.g., shift to areas with less intensive archaeological investigation). This relative dearth of information and significant changes in the archaeological record continue to make the Firehole phase a compelling time period for future archaeological research.

ACKNOWLEDGEMENTS

Thanks are due to the Wyoming Archaeological Society and all of the original excavators of the site. Early contributions to this paper, including completion of the debitage analysis, were made by Jessica Middleton. Illustrations were completed by Stacy Kautzman and the lead author. Useful comments on the manuscript were made by Patrick McCutcheon and Megan Partlow. The Firehole Basin materials were borrowed from the Western Wyoming College Archaeological Repository, where they are curated for the Wyoming Bureau of Land Management.

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HUNTER-GATHERER MOBILITY FROM THE EARLY ARCHAIC TO THE LATE PREHISTORIC PERIOD: INVESTIGATIONS AT THE HOGSBACK SITE (48UT2516), A HOUSEPIT SITE IN SOUTHWESTERN WYOMING

by
Summer Moore

The Hogsback site (48UT2516), located in Uinta County, Wyoming, was discovered during construction of the Kern River Expansion pipeline and subsequently excavated by Alpine Archaeological Consultants, Inc. The site's cultural remains, including one Early Archaic housepit, 31 slab-lined and earthen-lined thermal features, flaked and ground stone tools, worked bone, and a distinctive drilled stone object, range in age from approximately 5280 B.P. to 1010 B.P. and suggest use of the site was recurrent and occurred as part of annual resource procurement rounds. Floral and faunal remains suggest site inhabitants consistently made use of nearby pronghorn and biscuitroot resources throughout multiple periods of site occupation. However, floral evidence also suggests site occupants during earlier occupations supplemented these resources with additional foods. Altogether, cultural remains at the Hogsback site indicate levels of hunter-gatherer group mobility may have been at their lowest during the Early Archaic period and resource procurement practices may have become increasingly based on achieving higher levels of group mobility over time, as was occurring regionally within the Wyoming Basin during the Archaic and early Formative periods. The Hogsback site provides a long-term data set against which to evaluate local changes in resource procurement and settlement practices over time.

This paper makes use of an in-depth analysis of cultural remains at the Hogsback site (48UT2516), an Archaic housepit site in southwestern Wyoming (see Figure 1), to explore a set of issues relating to hunter-gatherer mobility in the Archaic era. This site, which was reoccupied successively and almost continuously over a period of at least 4,000 years, provides an ample data set against which to discuss such topics as changing settlement patterns and subsistence strategies. In this paper, it is argued although cultural use of the Hogsback site remained essentially constant over time in terms of the types of resources chosen for exploitation, certain changes in site use through time are apparent, in terms of occupation duration and the relative significance of each occupation within annual resource procurement rounds. These arguments are based on structure and feature morphology, as well as artifactual evidence.

HISTORY OF SITE INVESTIGATIONS

The Hogsback site was discovered during an open-trench inspection of the Kern River 2003 Expansion Project pipeline trench, in which

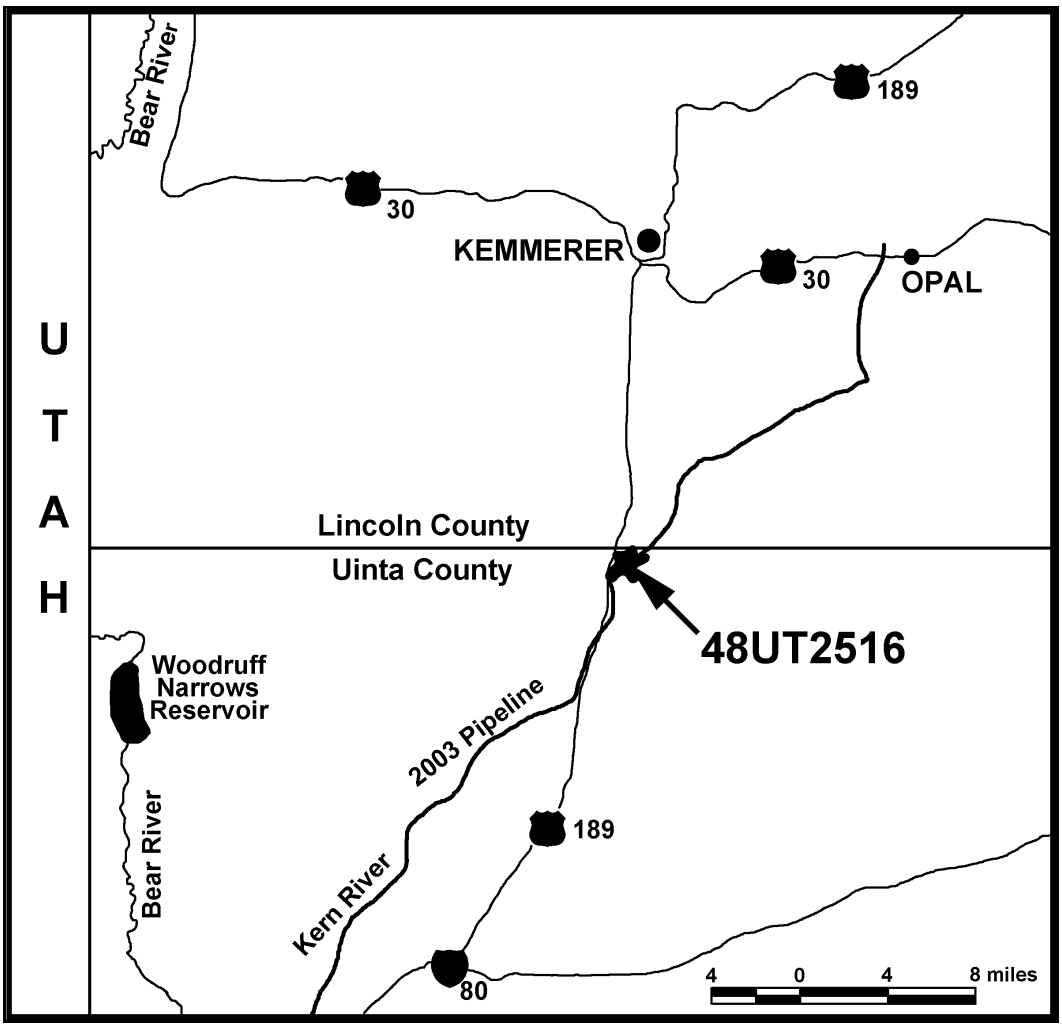

Figure 1: Map showing general location of the Hogsback site (48UT2516).

charcoal-stained deposits associated with four prehistoric thermal features were exposed in profile along a 320-m-long section of trench wall. These four discovery features, which included three earthen-lined basin hearths and a fire-cracked rock-filled roasting feature, produced radiocarbon dates ranging between 5280 and 1580 B.P. (in conventional radiocarbon years) and representing site occupations ranging from the Early Archaic period to the Late Prehistoric period, as defined for the Wyoming Basin (Thompson and Pastor 1995). Additionally, three of the features yielded either charred seeds, including *Chenopodium*/*Amaranthus* (cheno-am) seeds and *Rumex* (dock) seeds, or pieces of faunal bone.

Alpine Archaeological Consultants, Inc., selected the Hogsback site for a program of extensive data recovery following construction of the Kern River pipeline. Data recovery activities began at the site in 2004 and included auger probing, backhoe trenching, and controlled excavations. Two excavation blocks and several individual excavation units were excavated during the 2004 field season, with 102 m² in excavated area and 75 m³ cubic excavated volume. Thirty-one pit features and one Early Archaic housepit were exposed, in addition to a variety of artifactual, floral, and faunal remains. Excavation data from the site were originally compiled by Jason Eckman and reported in Alpine's Kern River 2003 Expansion

Project Wyoming report (Eckman 2005).

RADIOCARBON DATES

Excavated cultural features at the Hogsback site consisted of 31 pit features and one habitation feature within a site area encompassing nearly 50,000 m², as shown in Figure 2. Twenty-six radiocarbon dates were obtained from these cultural features, together representing an agglomeration of occupational components ranging in age from 5280 to 1010 B.P. (see Table 1 for a complete listing of radiocarbon dates obtained from the site). Occupations at the site, as indicated by radiocarbon dates obtained from single- and multiple-use thermal features, as well as the excavated structure, fall within four designated periods, as outlined by Thompson and Pastor (1995): (1) the Opal phase of the Early Archaic (6000 to 4300 B.P.); (2) the Pine Spring phase of the Late Archaic (4300-2800 B.P.); (3) the Deadman Wash phase of the Late Archaic (2800 to 1800 B.P.); and (4) the Uinta phase of the Late Prehistoric period (1800 to 650 B.P.). Radiocarbon date ranges are almost continuous throughout the 5,500-year period of the site's use, with only two notable breaks in

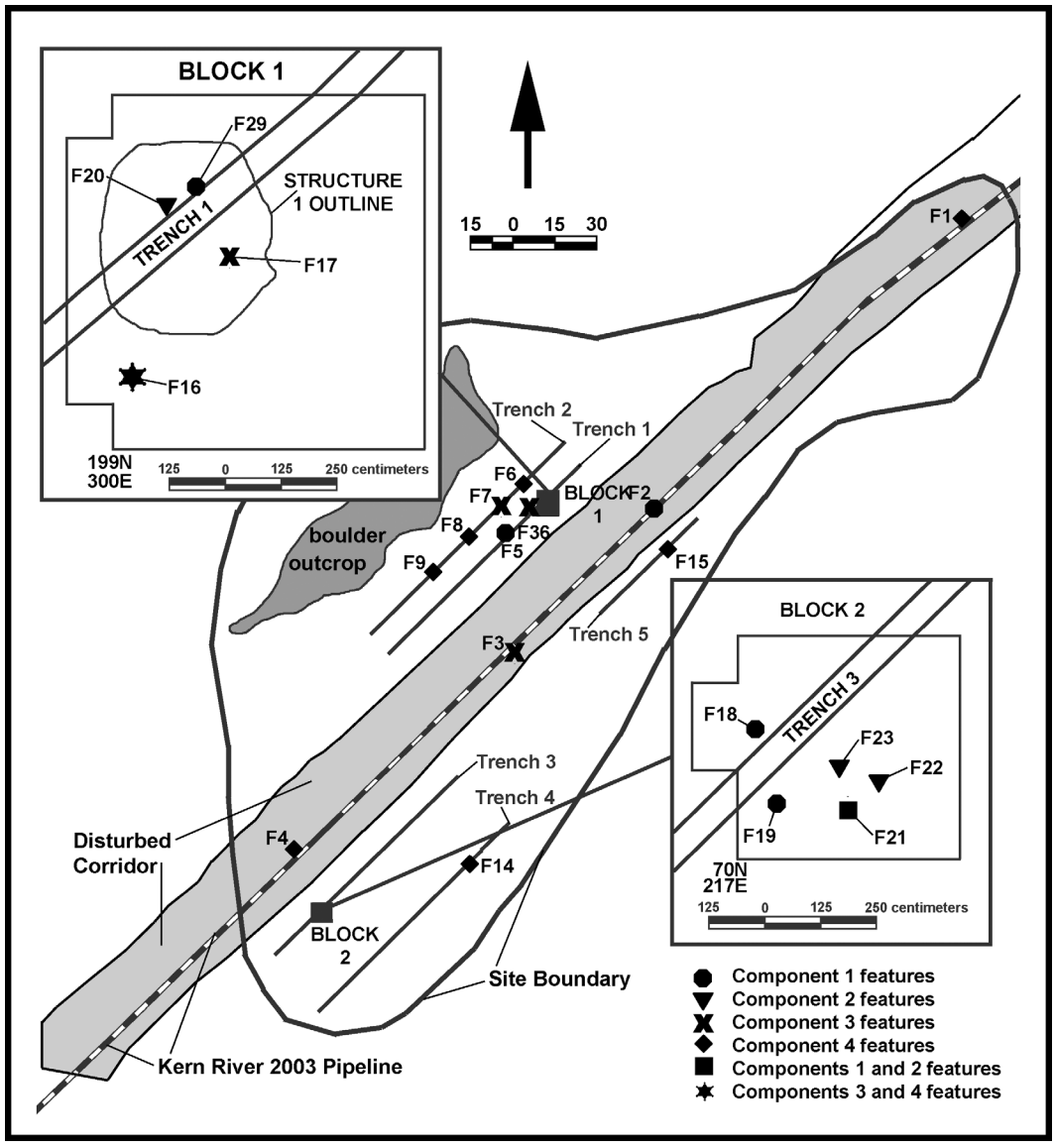

Figure 2: Map of the Hogsback site.

Table 1. Radiocarbon dates from the Hogsback site (48UT2516) (as reported in Eckman 2005).

LAB NO.	PROVENIENCE	MATERIAL	CONVENTIONAL RADIOCARBON AGE (B.P.)	13C/12C RATIO	CALIBRATED TWO-SIGMA AGE RANGE AND ASSOCIATED PROBABILITY
Beta-177465	Feature 1	Charred sagebrush	1580 ± 70	-25.0	A.D. 260-270 (p=0.009) A.D. 340-620 (p=0.983) A.D. 630-640 (p=0.008)
Beta-177466	Feature 2	Charred sagebrush	5280 ± 110	-25.0	4340-3940 B.C. (p=0.957) 3880-3800 B.C. (p=0.043)
Beta-177467	Feature 3	Charred sagebrush	2170 ± 50	-25.0	377-91 B.C. (p=0.987) 72-62 B.C. (p=0.013)
Beta-177468	Feature 4	Charred sagebrush	1590 ± 60	-25.0	A.D. 260-270 (p=0.005) A.D. 340-600 (p=0.993) A.D. 610-620 (p=0.002)
Beta-182192	Feature 5	Charred juniper and sagebrush	4490 ± 40	-23.1	3350-3080 B.C. (p=0.936) 3070-3030 B.C. (p=0.064)
Beta-182193	Feature 6	Charred sagebrush	1480 ±60	-25.0	A.D. 440-520 (p=0.212) A.D. 350-660 (p=0.788)
Beta-182194	Feature 7	Charred sagebrush	2270 ± 40	-25.8	400-347 B.C. (p=0.396) 321-227 B.C. (p=0.531) 223-245 B.C. (p=0.073)
Beta-182195	Feature 8	Charred juniper and sagebrush	1010 ± 60	-25.0	A.D. 890-930 (p=0.066) A.D. 930-1160 (p=0.925) A.D. 1170-1180 (p=0.009)
Beta-182196	Feature 9	Charred juniper and sagebrush	1280 ± 70	-25.4	A.D. 640-900 (p=0.988) A.D. 920-940 (p=0.012)
Beta-182197	Feature 14	Charred sagebrush	1080 ± 70	-25.0	A.D. 780-1050 (p=0.951) A.D. 1050-1060 (p=0.002) A.D. 1090-1120 (p=0.030) A.D. 1140-1160 (p=0.017)
Beta-182198	Feature 15	Sediment	1780 ± 70	-25.0	A.D. 80-110 (p=0.029) A.D. 120-410 (p=0.971)
Beta-182199	Feature 16 (upper fill)	Sediment	1700 ± 70	-25.0	A.D. 140-160 (p=0.017) A.D. 170-190 (p=0.019) A.D. 210-530 (p=0.964)
Beta-182200	Feature 16 (lower fill)	Charred sagebrush	2130 ± 40	-25.0	353-293 B.C. (p=0.148) 256-253 B.C. (p=0.002) 231-218 B.C. (p=0.028) 211-44 B.C. (p=0.822)
Beta-182201	Feature 17	Sediment	1900 ± 70	-25.0	40 B.C.-A.D. 260 (p=0.981) A.D. 280-290 (p=0.001) A.D. 300-320 (p=0.018)
Beta-182202	Feature 18	Charred sagebrush and juniper	4330 ± 40	-23.9	3080-3080 B.C. (p=0.023) 3027-2882 B.C. (p=0.977)
Beta-182203	Feature 19 (upper fill)	Charred sagebrush and juniper	4290 ± 40	-24.9	3019-2870 B.C. (p=0.965) 2803-2783 B.C. (p=0.029) 2767-2763 B.C. (p=0.004) 2720-2710 B.C. (p=0.002)
Beta-182204	Feature 19 (lower fill)	Charred sagebrush	4460 ± 40	-24.1	3342-3015 B.C. (p=0.963) 2979-2964 B.C. (p=0.017) 2950-2931 B.C. (p=0.019)
Beta-182205	Feature 20	Charred sagebrush	4210 ± 40	-24.8	2900-2837 B.C. (p=0.262) 2818-2664 B.C. (p=0.724) 2647-2637 B.C. (p=0.014)
Beta-182206	Feature 21 (upper fill)	Sediment	3350 ± 60	-25.0	1860-1840 B.C. (p=0.010) 1770-1500 B.C. (p=0.988) 1470 B.C. (p=0.001)
Beta-182207	Feature 21 (lower fill)	Carbonized sagebrush and juniper	4450 ± 40	-22.0	3337-3208 B.C. (p=0.395) 3194-3150 B.C. (p=0.095) 3140-3008 B.C. (p=0.419) 2986-2924 B.C. (p=0.091)
Beta-182208	Feature 22	Sediment	2960 ± 60	-25.0	1380-1340 B.C. (p=0.052) 1320-1000 B.C. (p=0.948)

Beta-182209	Feature 23	Sediment	3130 ± 80	-25.0	1600-1560 B.C. (p=0.026) 1530-1210 B.C. (p=0.944) 1200-1190 B.C. (p=0.009) 1180-1160 B.C. (p=0.013) 1140-1130 B.C. (p=0.008)
Beta-182210	Feature 29	Charred sagebrush and juniper	4360 ± 40	-25.4	3091-3057 B.C. (p=0.094) 3045-2893 B.C. (p=0.906)
Beta-182211	Feature 35	Charred sagebrush	2420 ± 40	-24.0	761-680 B.C. (p=0.245) 668-628 B.C. (p=0.067) 617-615 B.C. (p=0.003) 593-575 B.C. (p=0.024) 563-399 B.C. (p=0.661)
Beta-182213	Structure 1	Unidentified charred wood	4280 ± 40	-28.8	3017-2977 B.C. (p=0.072) 2971-2949 B.C. (p=0.024) 2937-2863 B.C. (p=0.803) 2807-2777 B.C. (p=0.065) 2773-2759 B.C. (p=0.020) 2718-2706 B.C. (p=0.016)
Beta-182214	Structure 1	Unidentified charred wood	4500 ± 90	-25.0	3500-3460 B.C. (p=0.030) 3380-2920 B.C. (p=0.970)

the site's pattern of successive use. One of these breaks occurred between the Opal phase of the Early Archaic era and the Pine Spring phase of the Late Archaic era, whereas the other occurred between the Pine Spring and the Deadman Wash phase of the Late Archaic period. An 860-year gap between the dates yielded by Features 20 (4210 B.P.) and the upper stratum of Feature 21 (3350 B.P.), falling between the end of the Early Archaic period and the beginning of the Late Archaic period, serves as the most significant break in the site's use history.

CULTURAL REMAINS

STRUCTURE 1

Structure 1, which represents the remains of a moderately sized (13.5 m²) Archaic-era housepit, was discovered during exploratory trenching at the Hogsback site. Radiocarbon dating placed use of this structure, or at least deposition of the structure fill, within the Opal phase of the Early Archaic era. Excavated structural remains consisted of a roughly circular depression measuring approximately 4.35 m long and 3.95 m wide, with a maximum depth of 50 cm below the apparent prehistoric ground surface. The overall profile of the structure was basin-shaped, and the floor of the housepit, although it did not show formal preparation of any type, was compacted to a substantial degree, presumably through trampling activity. Around the perimeter of the structure were two possible bench-like features (Eckman 2005).

Some evidence as to the nature of the superstructure associated with this housepit is provided by the presence of 12 probable postholes located slightly outside the perimeter of the housepit. Postholes associated with Structure 1 were primarily located along the southern and western edges of the structure, with one isolated posthole also located in the northeastern corner, directly opposite the remainder of the posts. Both vertical and angled posts were represented by the posthole features, with the posts of the southern edge primarily positioned upright and the posts of the western edge having apparently been set at an angle. Posts were spaced an average of 41 cm apart on the western and southern edges, with all but two spacings falling within 35 and 46 cm in length. An artist's reconstruction of the superstructure, based on the positioning and alignment of the postholes (see Figure 3), shows one method by which the superstructure support system may have functioned—through the use of a crossbeam anchored by relatively vertical posts, with slanting poles laid atop this horizontal beam. Additional evidence for the use of a crossbeam is a line of oxidation observed on the floor of the structure, opposite the location of the angled postholes,

Figure 3: Artist's reconstruction of Hogsback site occupation. The configuration of the housepit's superstructure is based on the arrangement of 12 postholes around a circular depression.

which may represent the remains of a heavy beam that burned at or after the abandonment of the structure (Eckman 2005).

One pit feature was discovered on the floor of Structure 1, in the northeastern portion of the structure. This feature, which was relatively small and irregularly shaped, contained sagebrush and juniper charcoal and showed evidence of oxidation along its upper edges, indicating it likely functioned as a hearth or small roasting pit. Faunal remains recovered from this feature, which may indicate small mammal processing inside the structure, included five charred long bones from a small, rabbit-sized mammal (Eckman 2005).

EARTHEN-LINED BASIN HEARTHS AND ROASTING PITS

Earthen-lined thermal pit features, including features identified as both basin-shaped hearths and roasting pits, were found in association with all four occupational components at the site. Simple, earthen-lined thermal features have been associated with all phases of prehistoric occupation in the central and Intermountain West (Reed, et al. 2001; Stiger 2001). Six earthen, basin-shaped hearths excavated from the site appear, based on a general scarcity of floral remains, to have been used primarily for producing heat and cooking meat. These features, which ranged between 42 and 107 cm in maximum diameter and between 14 and 27 cm in depth, typically contained moderate quantities of fire-cracked rock and sagebrush charcoal in their fill. Faunal remains present in hearth feature fill from the site included rabbit-sized and coyote-sized bone fragments (Eckman 2005).

Five unlined roasting pits were also identified at the site—these features were designated as such based on the presence of charred roots or cheno-am seeds within their fill, in addition to the occurrence of moderate to large quantities of fire-cracked rock. These roasting pits, which ranged between 56 and 112 cm in diameter and between 16 and 28 cm deep, were similar in size to the features identified as simple hearths. All three of the unlined roasting pits contained rabbit-sized long bone fragments, in addition to varying quantities and types of charred floral

remains. Although radiocarbon dates provided by samples from the eleven unlined pit features included dates extending over the entire span of occupation at the site, dates associated with the Late Prehistoric period were especially well represented.

SLAB-LINED CYLINDRICAL BASINS

Slab-lined basins, according to Smith and McNees (1999), appear to have been prevalent in southwestern Wyoming between approximately 6500 and 3120 B.P., although a broad range of evidence suggests they were used regularly throughout all phases of the Archaic period and into the Late Prehistoric period (Thompson and Pastor 1995). Certainly, they appear most frequently in contexts associated with the Opal phase (6500-4300 B.P.) of the Early Archaic period (Thompson and Pastor 1995). Although some morphological variation occurs, these features typically consist of upright slabs arranged in a circular fashion to enclose a thermal processing area.

The feature enclosure is often characterized by stratified fill and low densities of artifacts, faunal remains, and fire-cracked rock. Small mammal bones are often recovered from the slab-lined feature fill in small quantities, indicating animal processing likely constituted one aspect of slab-lined feature use. Likewise, botanical remains typically include cheno-am seeds, prickly pear remains, and sagebrush wood charcoal (McKern and Creasman 1991; Smith and McNees 1999; Thompson and Pastor 1995). The roasting of native Wyoming plants such as *Rumex* and biscuitroot is thought likely to have occurred in slab-lined thermal features, as well (Smith and McNees 1999; Thompson and Pastor 1995).

Six fully or partially slab-lined basin features were located at the site. These six slab-lined basins ranged between 60 and 100 cm in diameter, with depths ranging between 24 and 55 cm. Three of the features contained multiple strata yielding distinct radiocarbon dates, indicating multiple periods of use for each feature. All were ringed by thin, upright sandstone slabs set at an angle of approximately 45 degrees (Eckman 2005). Use of the slab-lined features, as indicated by radiocarbon dating of fill samples, ranged between 4490 and 1080 B.P.—a date of 2130 B.P. represents the latest date yielded by a lower stratum of a multi-layered slab-lined feature, indicating all of these features were likely constructed by 2130 B.P.

Subsistence data provided by the slab-lined features at the Hogsback site supports previous assumptions (Smith and McNees 1999; Thompson and Pastor 1995) these features were built as root-baking ovens. Fragments of charred root, probably a species of biscuitroot similar to that present on the site today, were recovered during macrobotanical analysis of feature fill samples from three of the slab-lined basins and are representative of four chronologically separate episodes of root roasting. Also recovered were charred cheno-am seeds from three of the basins, as well as charred hedgehog cactus and prickly pear seeds from a separate feature which also contained charred root remains. Faunal remains recovered from slab-lined features at the site were restricted to rabbit-sized long bone fragments, which were observed within the fill of four of the features, and additional unidentifiable remains. Potentially edible faunal remains were also identified in all of the features bearing cooked botanical remains, indicating plant and animal foods were commonly processed together or separately in a single feature. The sealing mechanism involved in resource processing, additionally, is indicated by one feature thought to have been left sealed after use—this feature was covered by a thick layer of horizontally oriented slabs near the top of the feature, in conjunction with an underlying layer of relatively unstained soil.

ARTIFACTS

Artifacts recovered from the Hogsback site included various types of flaked and ground

stone, as well as worked bone (see Table 2). Other artifacts recovered included pieces of worked bone, projectile points, including several points associated with earlier time periods than those suggested by the site's radiocarbon dates—and a drilled stone cylinder identified as a "shaman's sucking tube."

In all, the flaked stone tool assemblage recovered from the site contained 60 expedient flake tools and 47 bifacial tools, including 12 projectile points (Figure 4). Of these tools, 21 (20.6 percent) were quartzite, 76 (74.5 percent) were cryptocrystalline silicate, 3 (2.9 percent) were mudstone, and 2 (2.0 percent) were obsidian (see Figure 5). Thirty-five nonhafted bifaces was present, five of which showed use wear consistent with use as a knife or cutting implement, in addition to a variety of expedient tools made from flakes. Many of these flakes (*n*=10, or 17 percent) show evidence of unimarginal or bimarginal retouch and demonstrate wear consistent with use as cutting tools or scrapers (Eckman 2005).

Projectile points recovered from the site included a range of types spanning the Late Paleoindian period, as in the case of a tentatively identified Deception Creek projectile point dated approximately 8500 B.P. (Collins n.d.; Rood 1993), to the Late Prehistoric era, as represented by a fragmentary Rose Spring projectile point dated between 1450 and 650 B.P. (Justice 2002). Archaic projectile points recovered from the site include three Hawken Side-notched points (Holmer 1978), one Hanna Expanding-stem point (Frison 1991), and two Pinto-series projectile points (Justice 2002). These projectile points have been associated with dates ranging between 8300 and 3250 B.P., as shown in Table 3.

Three additional, unidentified projectile points were present at the site, including a reworked, corner-notched dart point and two points exhibiting lanceolate bodies and slightly expanding stems. These two lanceolate points appear somewhat similar to points belonging to the Pryor Stemmed Complex described by Frison and others as characteristic of the Foothill-Mountain tradition in the Late Paleoindian period (Frison and Grey 1980; Frison 1991). Frison (1991) assigns a date range of 8300 to 7800 B.P. to points belonging to the Pryor Stemmed Complex.

The projectile points recovered from the site are representative of a series of chronological ranges that are, in the cases of the Pryor Stemmed and Deception Creek points, at least, earlier than the radiocarbon dates yielded by the oldest features discovered at the site. The origin of these artifacts is unclear but likely indicates the site was used by mobile groups before the Opal-phase occupation for which radiocarbon dates are available—older thermal features, consequently, may have been either destroyed by post-depositional processes or may have been simply missed by testing activities at the site.

Another explanation for the presence of anachronistic projectile points within the site's artifact assemblage is likely tool reuse, as in the case of one Pryor-like point (8300 to 7800 B.P., based on Frison 1991) recovered from the fill of Structure 1 and thus necessarily deposited after approximately 4500 to 4250 B.P. Older projectile point types were recovered in several cases

Table 2. Tools and artifacts recovered from the Hogsback site (48UT2516) (as reported in Eckman 2005).

MATERIAL	ARTIFACT TYPE	COUNT
Flaked stone tools	Projectile points	12
	Formal bifaces, Stages II-V	35
	Expedient tools	60
	Hammerstones	6
	Cores	2
Ground stone tools	Metates	5
	Shaped slab	1
	Manos	3
	Unidentified fragments	3
Bone tools	Splinter awls	2
	Spatula	1
	Undifferentiated awls	2
Miscellaneous objects	"Shaman's sucking tube"	1

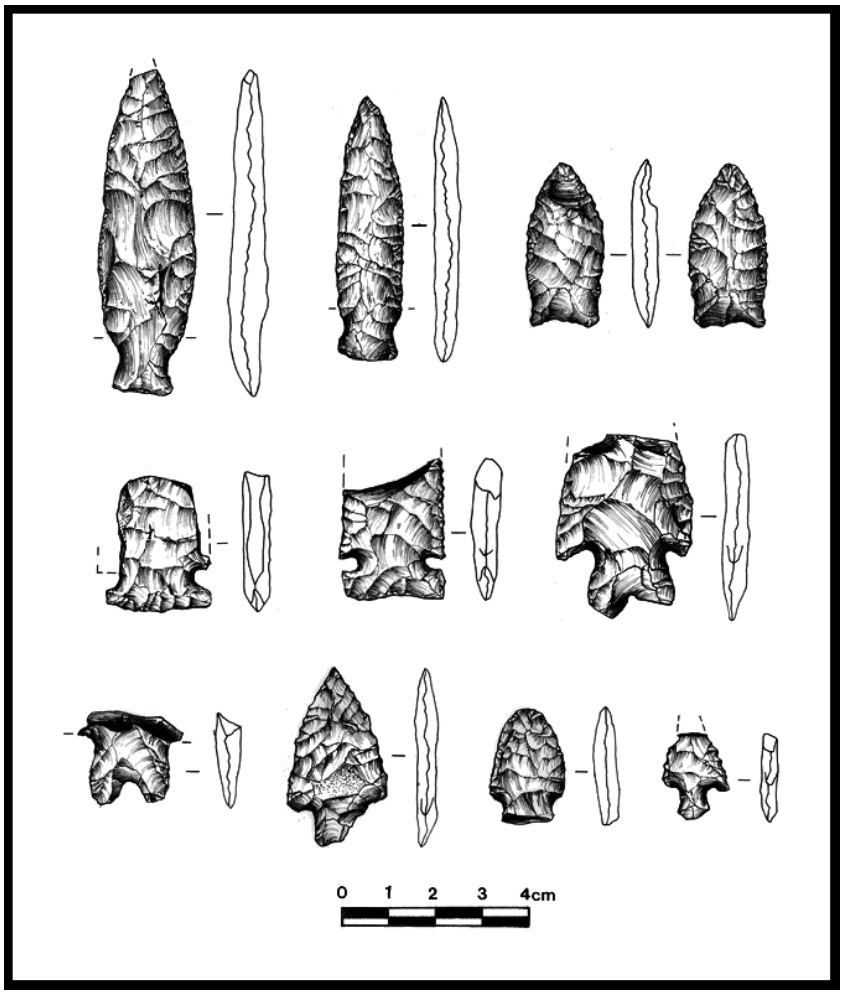

Figure 4: Projectile points from the Hogsback site. From left to right, top row: possible Pryor Stemmed, possible Pryor Stemmed, Deception Creek; middle row: Hawken Side-notched, Hawken Side-notched, Pinto Single-shouldered; bottom row: Pinto Single-shouldered, Hanna, indeterminate type, Rose Spring Corner-notched.

from younger occupational contexts at the site, suggesting reuse of projectile points picked up elsewhere or even on the site itself. Occupants of the site appear to have made extensive use of old projectile points occurring in various places on the landscape in which they lived and traveled.

Altogether, the presence of relatively large numbers of bifaces and flake tools shows inhabitants of the site were concerned with producing formal tools, presumably with the intent of curating them and subsequently transporting them to other sites occupied during seasonal rounds. Conversely, site inhabitants also made less formal, expediently designed flake tools, likely for immediate, one-time use in on-site processing activities. In any case, it appears materials processing constituted an important aspect of local economic undertakings, as would be expected at a residential site, however temporary (Binford 1980).

An extensive debitage analysis conducted by Lucille Harris (see Eckman 2005) suggests the range of lithic reduction strategies used at the site remained remarkably consistent at the site across both time and space. Both bifacial reduction, a tool-making technology conventionally associated with high levels of group

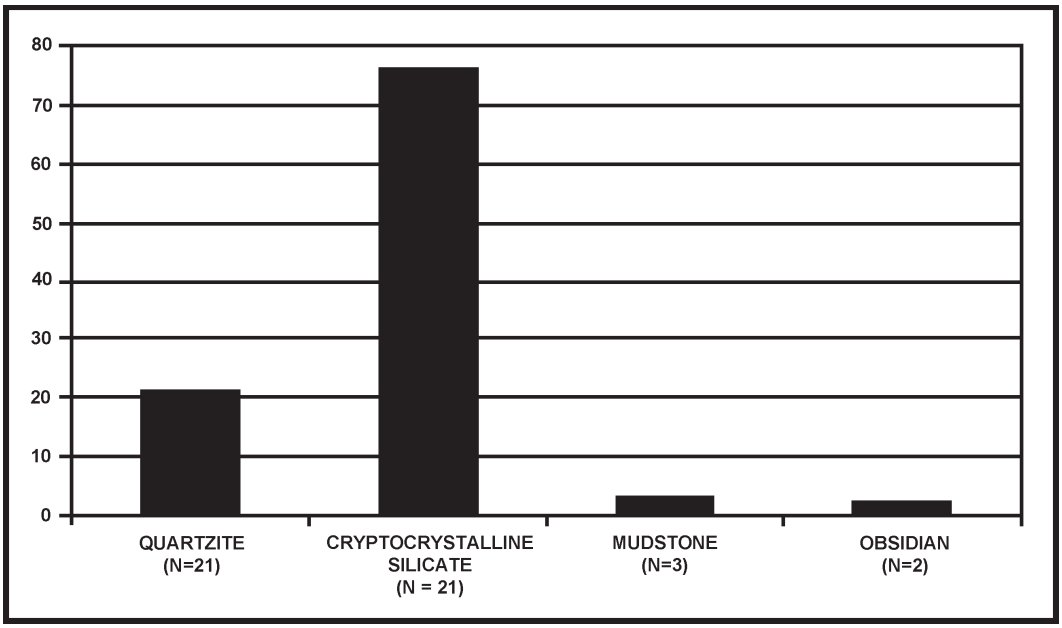

Figure 5: Raw materials occurring within the flaked stone tool assemblage at the Hogsback site (48UT2516).

mobility (Andrefsky 2005; Parry and Kelly 1987), and large flake production, a technological strategy typically linked with populations more sedentary (Parry and Kelly 1987), are evidenced by the Hogsback site debitage assemblage. Raw material types represented in the assemblage are heavily weighted toward cryptocrystalline silicate materials and quartzite, with cryptocrystalline materials comprising the majority of the collection. Other raw materials represented in the assemblage, including obsidian, quartz, limestone, and mudstone, were present in quantities too small for meaningful analysis, although one obsidian flake was traced to the Malad, Idaho, source 155 km distant (Eckman 2005).

In nearly all of these analytical units, cryptocrystalline flakes from the assemblage were found to represent all stages of lithic reduction from early core reduction to late biface thinning. The assemblage also included a limited number of resharpening flakes indicative of tool maintenance and, accordingly, use of the site as a camping location, a context cited as typical for tool maintenance activities (Binford 1977; Stevenson 1985). The quartzite flake assemblage, on the other hand, included a high proportion of core reduction flakes and exhibited evidence of both early- and late-stage core reduction activities, suggesting site occupants may not have emphasized bifacial reduction of quartzite.

The small sample of ground stone tools

Table 3. Projectile points from the Hogsback site (48UT2516) (based on Eckman 2005).

PROJECTILE POINT TYPE	DOCUMENTED AGE	COUNT
Deception Creek, possible	8500 B.P. (Collins n.d.; Rood 1993)	1
Pryor Stemmed, possible	8300-7800 B.P. (Frison and Grey 1980; Frison 1991; Pitblado 2003)	2
Hawken Side-notched	6500-4600 B.P. (Holmer 1978)	3
Hanna Expanding-stem	3250 B.P. (Frison 1991)	1
Pinto Shouldered	8300-6200 B.P. (Holmer 1978)	2
Rose Spring	1450-650 B.P. (Justice 2002)	1
Unidentified projectile points	Unknown	2

recovered from the site included five metates, one shaped slab, two manos, and several unidentifiable fragments. Ground stone tools were recovered from a variety of chronological contexts at the site and were linked to both the Early and Late Archaic periods. Three of the ground stone pieces, including one basin metate, the shaped slab, and an unidentifiable fragment, were collected from the occupational surface associated with Structure 1, indicating vegetal foods processing likely played an important role in food preparation activities during the Opal phase of the Early Archaic period. Two manos and an unidentifiable fragment, additionally, were recovered from the stratum of post-occupational housepit fill associated with the use of Feature 20, and the slab metate was collected from the vicinity of Features 16 and 17, an area of occupation associated with the Deadman Wash phase of the Late Archaic period (Eckman 2005).

Most notably, however, an assemblage of three metates and one ground stone fragment were discovered lying approximately 3 m east of the housepit perimeter, in a manner suggestive of intentional caching activity. Although no definitive chronological association could be established for this grouping of artifacts, it seems likely the gathering and storage of ground stone tools was likely undertaken with the intent of reusing these artifacts again during an anticipated re-habitation of the site, a practice identified by Binford (1979) as being important to mobile, logistically organized hunter-gatherer groups.

Five worked bone artifacts were recovered from the site, including two splinter awls constructed from the long bone shafts of an artiodactyl and a white-tailed jackrabbit, one spatula or spreading tool, and two generalized awl fragments (Chapin-Pyritz 2005). Polishing, grinding, and use-wear striations are present on the two splinter awls and the spatula-like tool. As processing tools, bone awls have been cited as being used in multiple ways, which primarily involve the processing or working of soft, perishable materials such as leather, basketry, or woven cloth. Spatula-like tools, on the other hand, are thought to be associated with the distribution of saucy foods or even liquid pigment (Chapin-Pyritz 2005), such as might be involved in decorative or ritual activities. Unfortunately, no staining or residue was detectable on the worked bone spatula to provide information regarding the type of material the tool was used to work.

Also recovered from the Hogsback site was a large fragment of a hollow, cylindrical object apparently made from siltstone, with evidence of drilling on its interior (see Figure 6). The artifact, which measures approximately 3.5 cm in diameter and over 8.5 cm in length, is somewhat large to have functioned as a smoking pipe and is thought instead to represent a portion of a "shaman's sucking tube" (Eckman 2005), an artifact type previously reported at the Coal Draw site in Wyoming's Big Horn Basin (Frison 1991; Frison and Norman 1993). Hollow tubes, constructed variously from stone, bone, horn, reeds, or even bamboo, have been documented ethnographically as being commonly associated with shamanic medical practices among a wide variety of Native American groups in both North and South America. Such therapeutic use, which most frequently involves the use of the tube to suck out or capture illness, is well attested during the historic period and has been recorded among such groups as the Quinault (Olson 1936); the Choctaw, Creek, Natchez, and Chickasaw (Sturtevant 1955); the Haida

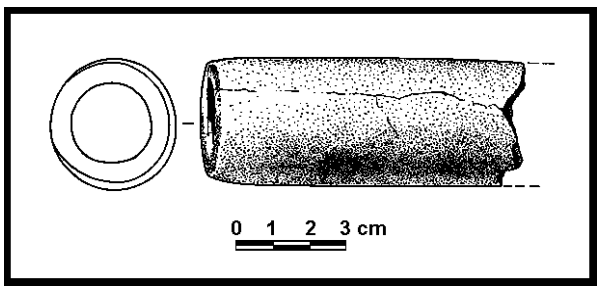

Figure 6: Artifact from Structure 1 identified as a shaman's sucking tube.

(Krause 1956); the Yokuts (Gayton 1948); the Tarahumara (Bennett 1935); the Mundurucu (Murphy 1958); and the Warao (Wilbert 1972).

Based on their similarity to objects involved in ethnographically documented healing practices, the group of artifacts recovered from the Coal Draw site was thought by the investigators to represent a cache of shamanic ceremonial material. The close association at the Coal Draw site, moreover, of multiple, purposefully broken tubular stone artifacts led the investigators to conclude this collection of artifacts had composed part of a shaman's burial cache (Frison 1991). Although only one portion of a single stone cylinder has been recovered from the Hogsback site, the presence of this unusual artifact nevertheless suggests shamanic activity of some kind may have played a role in ceremonial life during the period the housepit was occupied. As no additional evidence has been documented to indicate a burial context is present at the Hogsback site, it is conceivable the intentional breakage of the stone cylinder found near the floor of the housepit structure was involved in some way in an abandonment ritual associated with group movement away from the immediate area.

FLORAL REMAINS

Macrobotanical and palynological analysis of soil and ground stone samples from the Hogsback site produced a limited amount of information regarding the resources exploited at the site, in addition to those resources potentially brought in to the site from other locations. Results from the analysis of floral remains indicate vegetative exploitation at the site was most variable during site activities associated with Component 1, the occupational period over which the housepit was constructed and used. Charred plant remains observed in samples associated with the Early Archaic-period occupation include sagebrush and juniper charcoal, cheno-am, dock weed, hedgehog cactus, and prickly pear seeds, as well as a variety of charred root remains from four separate features at the site (Hoag 2005). Although cheno-ams typically occupy sagebrush scrubland environments similar to the Hogsback site, dock weed is most usually found in moist environments, indicating site occupants likely traveled some distance to procure the plant for processing and consumption. Hedgehog cactus and prickly pear remains found in association with the roasted root remains may have been either cooked in their own right or added to the roasting pit as a means of introducing moisture into the root-roasting process (see Hoag 2005).

Pollen analysis results, moreover, emphasize the vegetative food diversity achieved during the Early Archaic period at the site, as the samples from this period constitute the only samples to reveal pollen remains contrasting with background pollen. These results include the recovery of cattail pollen from a metate located in the upper fill of Structure 1, as well as the retrieval of chokecherry pollen from soil samples taken near the floor of the structure (Jones 2005). The presence of both chokecherry plants and cattails is somewhat incongruous with the modern environment surrounding the Hogsback site, as both species are associated with moister environments than that which characterizes the site today. The occurrence of these species in the floral assemblage, then, may suggest occupants of the site were traveling to a more riparian area, possibly Little Muddy Creek to the west of the site, to collect these food items and bring them back to a habitation and processing area.

FAUNAL REMAINS

Analysis of faunal remains from the site indicates animal use was primarily focused on the procurement and processing of large game animals such as pronghorn, although the significant proportion of rabbit-sized faunal remains also suggests small animals were captured, as well. Pronghorn antelope appear to have been transported to the site as whole carcasses, pos-

sibly suggesting a trapping location or otherwise advantageous hunting site was situated nearby. Moderate numbers of bison and deer were also present at the site, as were small numbers of jackrabbit and cottontail remains, frequently recovered from roasting pit features in association with charred macrobotanical remains. Given the relative abundance of jackrabbits and cottontails in the area, the proportionately high incidence of large mammal bone at the site suggests the site's inhabitants purposefully chose to spend time procuring relatively high-yield pronghorn instead. This choice, consequently, may have been based on the apparent advantageousness of the site's location as a pronghorn hunting spot.

MODELING MULTI-COMPONENT OCCUPATION OF THE HOGSBACK SITE

Cultural remains at the Hogsback site include multiple cultural features representing distinct spurts of reoccupation over the course of the site's occupational history. Features associated with each of the identified components were scattered throughout the site in such a way as to indicate successive occupations of the site were layered over one another in many parts of the site. Evidence for the total length of site occupation, which appears to have extended from approximately 5280 to 1010 B.P., suggests site inhabitants made use of a changing array of residential and processing features throughout the site's history of use, reusing or constructing new features as needed.

COMPONENT 1: THE OPAL PHASE OF THE EARLY ARCHAIC

Although diagnostic projectile points suggest the possibility the site may have been used as early as the Late Paleoindian period, the earliest radiocarbon dates fall within the Opal phase of the Early Archaic period. This phase, which has been defined as lasting between 6500 and 4300 B.P. in the Wyoming Basin, was defined based on a noticeable peak in radiocarbon dates occurring around 5300 B.P. The Opal phase, according to Thompson and Pastor (Thompson and Pastor 1995) was characterized by an apparent decrease in overall mobility levels, evidently due to a decrease in the availability of large game that made logistical, rather than residential, mobility a more effective settlement strategy. Housepits as a residential feature made their first substantial appearance during this period (Thompson and Pastor 1995).

The Early Archaic, Opal-phase occupation of the site included both slab-lined and earthen pit features, in addition to a moderately sized housepit with postholes and at least one internal feature, all of which were broadly dispersed across an area of the site measuring 225 by 60 m. The earliest radiocarbon date from the Hogsback site, which was produced by a thermal feature near the center of the site, occurs during the Opal phase and consists of a solitary radiocarbon date of 5280 B.P. Several hundred years following the construction and use of this feature, the site was resettled, this time as part of a prolonged pattern of episodic reuse.

Although ten radiocarbon dates were assigned to the Opal-phase component, it is clear these dates represent several distinct occupational phases within the component itself. At least one slab-lined feature (Feature 19) experienced two separate episodes of use during the Opal phase at the site, separated by approximately 170 years. One additional feature (Feature 21) was built during the site's Opal-phase occupation and subsequently re-used during the Pine Spring phase of the Late Archaic period (4300 to 2800 B.P.), with the span between uses of this feature measuring on the order of 1,100 years. A thermal feature "floating" above the floor of Structure 1, accordingly, was found to produce a date falling approximately 150 years after the final use of a floor feature associated with the structure, suggesting the structural depression left by this housepit was used as a form of shelter for a much longer period than the housepit itself.

Evidence the re-habitation of the Hogsback

site likely represents an intentional, planned mobility strategy is provided by the presence of a small cache of ground stone recovered from an undated context within Block 1. Artifact-caching behavior, along with the building of more formalized processing features such as slab-lined roasting pits, is often seen as an indication subsequent visits to a site were planned, possibly following renewal of certain resources that may have been depleted during the current site occupation (Smith and McNees 1999). Both artiodactyl populations (Janetski 1997), including pronghorn, and biscuitroot plants may have required extensive periods of time during which to regenerate (Smith and McNees 1999).

As indicated by the presence of Structure 1, the Hogsback site may have functioned, especially during its earlier periods of use, as a seasonal—probably cool-season—camp, as ethnographic data have typically associated aboriginal pit structures in areas of bi-seasonal climatic patterning with late fall, winter, or early spring occupations (Gilman 1987). Although some investigators have proposed housepits represent the remains of short-term, repeated occupations of a particular depression (e.g., Smith 2003; Smith and McNees 1999), other lines of evidence suggest the length of housepit occupation was variable and linked to the amount of effort placed into housepit construction. Relatively large houses with complex superstructures, such as the housepit excavated at the Hogsback site, in addition to structures such as Medicine House (McGuire, et al. 1984; Miller and McGuire 1997), Yarmony House (Metcalf and Black 1991; Metcalf 1997), and the Mouse House (Moore 2007), for instance, may have functioned as "wintering-over" locations, in which a substantial amount of effort was placed into shelter construction.

Evidence the structure was used for a short time, probably a few years at most, and then destroyed is provided by extensive evidence for burning of the superstructure. Cameron (1990) describes the frequent practice of intentional destruction of Basketmaker III/Pueblo I pit structures in the American Southwest. These structures were often dismantled before abandonment or intentionally burned, the latter tending to occur when insect infestation or post rotting had begun to result in unsafe structural conditions. Typical use-lives of Basketmaker III/Pueblo I pit structures often ranged from 10 to 15 years and sometimes lasted for a shorter span of time (Ahlstrom 1985; Cameron 1990; Wilshusen 1988), making it unlikely Archaic-era structures exhibiting less complex construction techniques were inhabited for a longer period of time (Alan Reed, personal communication 2007).

Intensive burning within the Hogsback site structure is indicated by the presence of charcoal chunks and extensive oxidation of the structure's floor, as well as a distinct line of oxidized soil stretching between the two farthest postholes on the eastern side of the structure. This line of oxidation suggested to the structure's excavator that a crossbar stretching between these two posts and comprising a "lintel" above the postulated location of the structure's entryway had fallen and burned directly on the floor (Eckman 2005).

The presence on the floor of Structure 1 of a fragment of an artifact identified as a shaman's "sucking tube," additionally, suggests the breaking of this artifact may have been implicated in the ritual abandonment of the housepit structure. Intentional breakage of artifacts and the placement of "ritual" artifacts have often been associated with burial contexts and structure abandonment, processes which both reflect the "death" of a social entity such as an individual or a structure (Wilshusen 1988). The presence of a shaman's "sucking tube" on the floor of an Archaic housepit structure provides an interesting insight into possible aspects of Early Archaic-period socioreligious activity. Its presence also, however, supports the contention this structure, as a substantial investment of labor, may have been occupied for some time. An alternate view

of housepit construction and use, holding that housepits were expediently constructed structures occupied for short periods over many years (as outlined in Smith 2003), seems to contradict the high degree of cost incurred by the breakage of such a valuable object in association with abandonment activities.

COMPONENT 2: THE PINE SPRING PHASE OF THE LATE ARCHAIC

A subsequent phase of occupation at the Hogsback site has been assigned to the Pine Spring phase of the Late Archaic period, based on a series of three radiocarbon dates ranging between 2960 and 3350 B.P. (see Table 1). The Pine Spring phase, which has been defined as extending between 4300 and 2800 B.P., remains somewhat poorly understood but appears to have been characterized by slightly increasing levels of mobility. Housepits, particularly large ones, appear to have become much less common during this period, perhaps due to increasing mobility levels, and may never have regained their previous prominence.

The Late Archaic, Pine Spring-phase site occupation included the reuse of a slab-lined feature first constructed during the Opal phase, in addition to the deposition of two FCR and ash dumps likely representing the contents of cleaned-out hearth pits. Although some overlap exists among the calibrated date ranges produced by the three features, it is unknown whether any two of the three were used at the same time. The Pine Spring-phase component, at least the areas at the site exposed during excavation, was found to be isolated in a small area of Block 2, at the southwestern corner of the site. This component appears to represent multiple occupations of a small area around a slab-lined roasting pit that may have, through the visibility of its upright slabs, drawn subsequent site inhabitants to this immediate area (see Smith and McNees 1999). The thermal feature dumps observed may have resulted from the use of the component's slab-lined roasting pit or, alternatively, with thermal features outside Block 2 that remain unexposed. Altogether, settlement and mobility data from the Pine Spring phase are somewhat limited but do indicate at least one episode of occupation around 3000 B.P.

COMPONENT 3: THE DEADMAN WASH PHASE OF THE LATE ARCHAIC

Following the Pine Spring phase of the Late Archaic period in the Wyoming Basin is the Deadman Wash phase, which fell between approximately 2800 and 1800 B.P. (McKibbin, et al. 1989; Metcalf 1987; Thompson and Pastor 1995; Wheeler, et al. 1986), and which is represented at the Hogsback site by a series of radiocarbon dates ranging between 2400 and 1900 B.P. (see Table 1). Both phases have been delineated within the Late Archaic period based on relative peaks in frequencies of radiocarbon dates rather than noticeable trends in subsistence or settlement practices, although a slight trend toward greater reliance on large game animals has been observed throughout the Late Archaic period (Thompson and Pastor 1995). The increased emphasis on large game hunting may have resulted in greater residential mobility among hunter-gatherer groups during this period.

The Deadman Wash phase at the Hogsback site is represented by a series of five radiocarbon dates from thermal features restricted to the central portion of the site southeast of a rock outcropping which essentially forms the site's northwestern border. Three features (Features 3, 7, and the lower fill of Feature 16) produced tightly clustered dates potentially indicative of simultaneous feature use. The radiocarbon date ranges yielded by Features 3 and 16 are statistically the same ($t = .39$; $\square = .05$), strongly suggesting concurrent use. These five thermal features, which represent at least three distinct episodes of occupation, were located in an area of the site intensively used throughout the site's history of occupation.

COMPONENT 4: THE UINTA PHASE OF THE LATE PREHISTORIC

The youngest occupational component

found at the Hogsback site was assigned to the Uinta phase of the Late Prehistoric period, with radiocarbon date ranges for the component clustering within a nearly 800-year period between 1780 and 1010 B.P. Although occupation of the Hogsback site appears to have continued unabated, though episodically, throughout the Late Archaic period and the Uinta phase of the Late Prehistoric period, noticeable changes in both technologies—most notably the introduction of the bow and arrow—and subsistence strategies have been observed. Late Prehistoric groups, for example, appear to have made more intensive use of seeds and other floral resources than previous groups to inhabit the Wyoming Basin, and population densities appear to have increased dramatically, based on the number of radiocarbon dates present from this period (Thompson and Pastor 1995).

Features identified as part of this component included seven earthen, basin-shaped hearths, in addition to the upper fill of Feature 16, which was first constructed and used during the Deadman Wash phase of site occupation. Like previous components at the site, the similarity of the date ranges produced by certain sets of features suggests multiple features were in use simultaneously during several periods of site occupation. Overall, the site appears to have been reused almost continuously throughout most of the Uinta phase, based on the scattering of Late Prehistoric thermal features over a wide area of the site, until its apparent abandonment around 1010 B.P.

SUMMARY

Excavations at the Hogsback site revealed evidence of a series of successive occupations of the site location over a period of approximately 4,000 years, against the background of a wide variety of climatic and environmental conditions, as described by Ecklerle (1997). This location experienced several punctuated episodes of frequent, possibly seasonal reoccupation. Interestingly, two breaks in the site's occupation sequence occur. One fell between the Opal phase and Pine Spring phase occupations of the site, while the other fell between the Pine Spring and Deadman Wash phases of occupation. This distribution produces a pattern similar to the regional peaks in radiocarbon dates which define these periods, peaks whose origin has been suggested as possibly resulting from periodic changes in mobility or population density (Thompson and Pastor 1995). In contrast to this overall pattern of radiocarbon date frequencies, however, which demonstrates a massive increase in the number of radiocarbon dates throughout the Uinta phase, radiocarbon dates from the Hogsback site during the Deadman Wash phase of the Late Archaic and the Uinta phase of the Late Prehistoric period remain steady, with no noticeable breaks between them.

Based on the lack of discontinuity between the Late Archaic and Late Prehistoric occupations of the site, then, in terms of both radiocarbon dates and cultural remains, there is no evidence the Late Prehistoric groups occupying the area effected any major changes in subsistence strategies or settlement patterns relative to those used previously during the Archaic era. Site abandonment, based on the available radiocarbon dates from the site, seems to have occurred soon after the regional Late Prehistoric-period peak in radiocarbon dates at approximately 1300 B.P., after which the numbers of dated components drop off considerably for reasons still unclear (Thompson and Pastor 1995).

The Hogsback site apparently comprised a useful camping spot throughout multiple periods of prehistory, as it evidently provided access to successful pronghorn hunting, rabbit hunting, and biscuitroot and cheno-am collection locations, all of which were used by prehistoric inhabitants of the site. Although site occupation occurred repeatedly over several thousand years, it appears resource consumption remained fundamentally unchanged, with

locally available roasted roots, cheno-am seeds, and pronghorn meat, as well as rabbit meat, providing sustenance to the site's inhabitants over virtually its entire use-period.

Supplementation of these basic resources occurred during the Early Archaic period, however, with the collection of cattail, chokecherry, and dock weed plants serving to provide additional, storable foods within a context of relatively long-term site occupation. The presence of these foods suggests residents of the site during this period were traveling to a riparian location—perhaps Little Muddy Creek, which flows nearly one mile west of the Hogsback site—to collect these items and bring them back to camp. Overall, it appears the floral diversity expressed in the Opal-phase component occupations may result from a more intensive occupation of the site during this period, as previous research (Kent 1992; Reed 2001) indicates diverse assemblages, particularly food resource assemblages, are associated with longer-term occupations.

Cultural features excavated at the site support the notion that occupation became less intensive over time, as simple hearth features, rather than slab-lined roasting pits, became more common and substantial structures—such as the housepit referred to as Structure 1—do not appear to have been built at the site after the Opal phase of the Early Archaic period. This trend, overall, is consistent with the proposed higher levels of mobility associated with Late Archaic and Late Prehistoric components both in southwestern Wyoming as a whole (Thompson and Pastor 1995) and at the Hogsback site.

Although Binford (1990) is emphatic that residential sites as represented ethnographically always exhibit some sort of structure or constructed shelter, these shelters may be too ephemeral to appear in the archaeological record—archaeologists, he says, "viewing the remains of expediently constructed shelters often see only hearths and lithic scatters" (Binford 1990:122). Presumably, the excavation of a pit beneath the shelter, possibly accompanied by the burning of superstructure material above the pit, may be necessary to provide for hunter-gatherer structure visibility in the archaeological record. Consequently, it appears that, at the Hogsback site, an above-average level of effort was placed into the construction of a housepit during the Early Archaic period, likely with the intention of remaining on-site for a long period, at least relative to the length of time spent at the site during later phases of occupation.

Based on evidence collected at the Hogsback site and other Archaic hunter-gatherer sites, it seems clear mobility patterns in southwestern Wyoming, like those of northwestern Colorado, were characterized over time by shifts away from increasing levels of sedentism and toward rising stages of mobility. This chronological patterning stands in direct contrast to the classic example of the American Southwest, where inhabitants appear to have largely followed a regional trend of increasing levels of sedentism starting in the late part of the Archaic era and increasing in intensity throughout the Formative, Protohistoric, and Historic periods. This disparity highlights the fact relative levels of sedentism and mobility actually fluctuated throughout prehistory, reaching high points within the Early Archaic in Wyoming and later periods in some other areas further to the south. Experimentation with mobility strategies, in other words, has occurred frequently, as individuals and groups adapted various mobility strategies to meet their diverse needs.

ACKNOWLEDGEMENTS

Excavations at the Hogsback site were undertaken by Alpine Archaeological Consultants, Inc. in 2004. Thanks to Alan Reed of Alpine, who oversaw the excavation project and who provided comments during the writing of this paper, and to Rand Greubel for additional comments. Jason Eckman supervised excavations at the Hogsback site, analyzed cultural remains, and compiled the original site report. Barbara

Lockwood created the GIS maps for this article. Additional thanks go to the Kern River Gas Transmission Company, for funding the excavations and report production associated with project excavations at the Hogsback site.

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