THE COLORADO WICKIUP PROJECT PHASE VII:

DOCUMENTATION OF SELECTED EPHEMERAL WOODEN FEATURE SITES IN ROCKY MOUNTAIN NATIONAL PARK, COLORADO

CURTIS MARTIN
JOHN E. LINDSTROM
HOLLY SHELTON

COMPLETED FOR
THE COLORADO HISTORICAL SOCIETY STATE HISTORICAL FUND AND
THE NATIONAL PARK SERVICE

DARG Dominquez Archaeological Research Group

A CONSORTIUM FOR CULTURAL RESOURCES
RESEARCH, PRESERVATION AND EDUCATION
IN THE NORTHERN COLORADO PLATEAU

The Colorado Wickiup Project
Phase VII:

Documentation of Selected Ephemeral Wooden Feature Sites In Rocky Mountain National Park, Colorado

Completed for
The Colorado Historical Society
State Historical Fund Project No. 2011-M1-020
and
The National Park Service

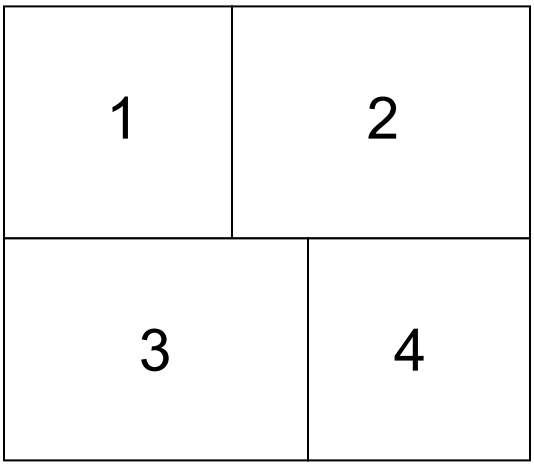
DARG Project # D1003
June 8, 2012

Prepared by
Curtis Martin, Principal Investigator
John E. Lindstrom and
Holly Shelton

with contributions by
Nicole Darnell and
Hannah Mills

Dominquez Archaeological Research Group, Inc.
P. O. Box 3543
Grand Junction, Colorado 81503
Cultural Resource Use Permit No. C-67009

Submitted to
The Colorado Historical Society State Historical Fund
1300 Broadway
Denver, Colorado 80203
and
The National Park Service
Rocky Mountain National Park
1000 West Highway 36
Estes Park, Colorado 80517



Front cover photographs:

1. 5RB12900, the Tea House Wickiup
2. 5LR12899, the Lightning Bear Wickiup
3. 5LR4503, collapsed wickiup
4. 5LR4460, Feature A, boulder lean-to

Acknowledgments

First and foremost, Dominquez Archaeological Research Group (DARG) would like to express their sincere appreciation to Mark Wolfe, State Historical Fund (SHF) Director, Thomas Carr, SHF Staff Archaeologist, and the entire staff of the State Historical Fund and the Colorado Historical Society for their continued support of the Colorado Wickiup Project (CWP) in our efforts to locate, record, and preserve the state's rapidly vanishing wickiups, tree platforms, and other aboriginal wooden features. Funding for this project was provided by the Colorado Historical Society State Historical Fund (Project # 2011-M1-020) with matching funds from the National Park Service (NPS) and Rocky Mountain National Park (RMNP).

Karen Waddell, Cultural Resource Specialist for Rocky Mountain National Park, initially contacted the CWP in 2009 and brought to their attention the existence of the ephemeral wooden features in the Park and her desire to have a selection of them documented and analyzed by DARG. Karen, along with RMNP Museum Curator, Tim Burchett, were extremely helpful and accommodating throughout the field work and report preparation. This project would not have been possible without their assistance. All of the park service personnel that were encountered during our research at "ROMO" were extremely professional and cooperative. We would like to express special appreciation to RMNP staff members Don Stewart, Park Ranger & Seasonal Interpreter; Bill Commins, Park Research Coordinator; Christopher Dahl, Forester; Jeff Conner, Natural Resources Specialist; and Judy Visty, Research Administrator.

The field work for Phase VII of the CWP was conducted between November 1st and 11th, 2010 and between June 27th and July 14th, 2011. Curtis Martin served as Principal Investigator and he was assisted in the field by subcontractor archaeologists John Lindstrom, Holly Shelton, and Travis Archuleta—an exemplary and dedicated crew. Shelton, Lindstrom, and Hannah Mills were also contracted during the report preparation phase and were responsible for preparation of site and feature maps, photo captioning, editing, completion of site forms, and numerous other tasks. Colorado State University graduate student, Annie Maggard, joined the field crew for a day in 2010, and offered valuable insights into the wickiups of northern Colorado based on her dissertation research.

Carl Conner, President of DARG; Richard Ott, Communications Director; and Michael Berry, Operations Director, provided invaluable service and direction throughout. In the lab Nicole Darnell, DARG's GIS specialist, produced and refined the project maps and site plans.

Abstract

The Colorado Wickiup Project (CWP) is a comprehensive effort to document wickiups and other ephemeral aboriginal wooden features in Colorado, which are primarily attributable to the Ute. The CWP has documented 406 wooden features (wickiups, tree platforms, etc.) on 78 sites. The findings have provided new insights into the final decades of the state's Native American occupants, including extensive evidence of post-1880s off-reservation occupation.

In 2010 and 2011, as Phase VII of the project, Dominquez Archaeological Research Group, Inc. (DARG) compiled data from 22 sites in Rocky Mountain National Park (RMNP) in Larimer County, Colorado. Fifteen of these consist of revisits to previously recorded sites and seven are newly discovered sites found during searches for previously known resources. Eight additional previously recorded wooden feature sites were searched for but not located. A total of 36 wooden features were recorded on 20 of the documented sites that are considered of, or potentially of, Native American construction including 13 wickiups, ten cultural pole caches, five utility poles and racks, two lean-to shelters, two culturally modified trees, two firewood caches, a brush animal trap, and a windbreak. Two of the previously recorded sites were located but did not contain wooden features. In addition, four newly discovered structures consist of ephemeral wooden features of obvious historic or modern construction that have been chronicled herein merely for comparative and narrative purposes.

For the first time, the CWP was provided with an opportunity to conduct research on aboriginal wooden feature sites outside of the core research area of northwest and west central Colorado. In addition, with the exception of two sites—5SH3788 and 5ME14071, these are the first cultural resources the project has documented at elevations over 8000 feet in elevation and on the Front Range, or east slope, of the Rocky Mountains. It is also the first research for the CWP within the boundaries of a national park. In addition to at least three types of wooden features that had not been previously documented by the CWP—bark-peeled ponderosa pine trees, boulder lean-tos, and an animal entrapment—the relative frequencies and nature of the wickiups and other ephemeral features proved to be notably distinct from those found in the lower elevations of the piñon/juniper habitat in the western part of the state.

The discussion of findings in this report includes descriptions and evaluations of all expedient wooden feature sites recorded during Phase VII, an overview of the Colorado Wickiup Project results to date, a summary discussion of the findings of the RMNP work and the CWP as a whole, and recommendations for future research and management of aboriginal wooden feature sites including recommendations regarding National Register of Historic Places (NRHP) potential. Of particular interest is the notably well preserved standing conical shelter at site 5LR12900, the Tea House Wickiup. Additional funding has been granted by both the State Historical Fund—as an Archaeological Assessment Grant—and the National Park Service—as an Impact Grant, for the purpose of conducting testing and additional documentation in 2012, for tribal consultation and for addressing potential preservation and interpretive options for the wickiup.

Table of Contents

PART III: DISCUSSION AND SYNTHESIS

Appendices

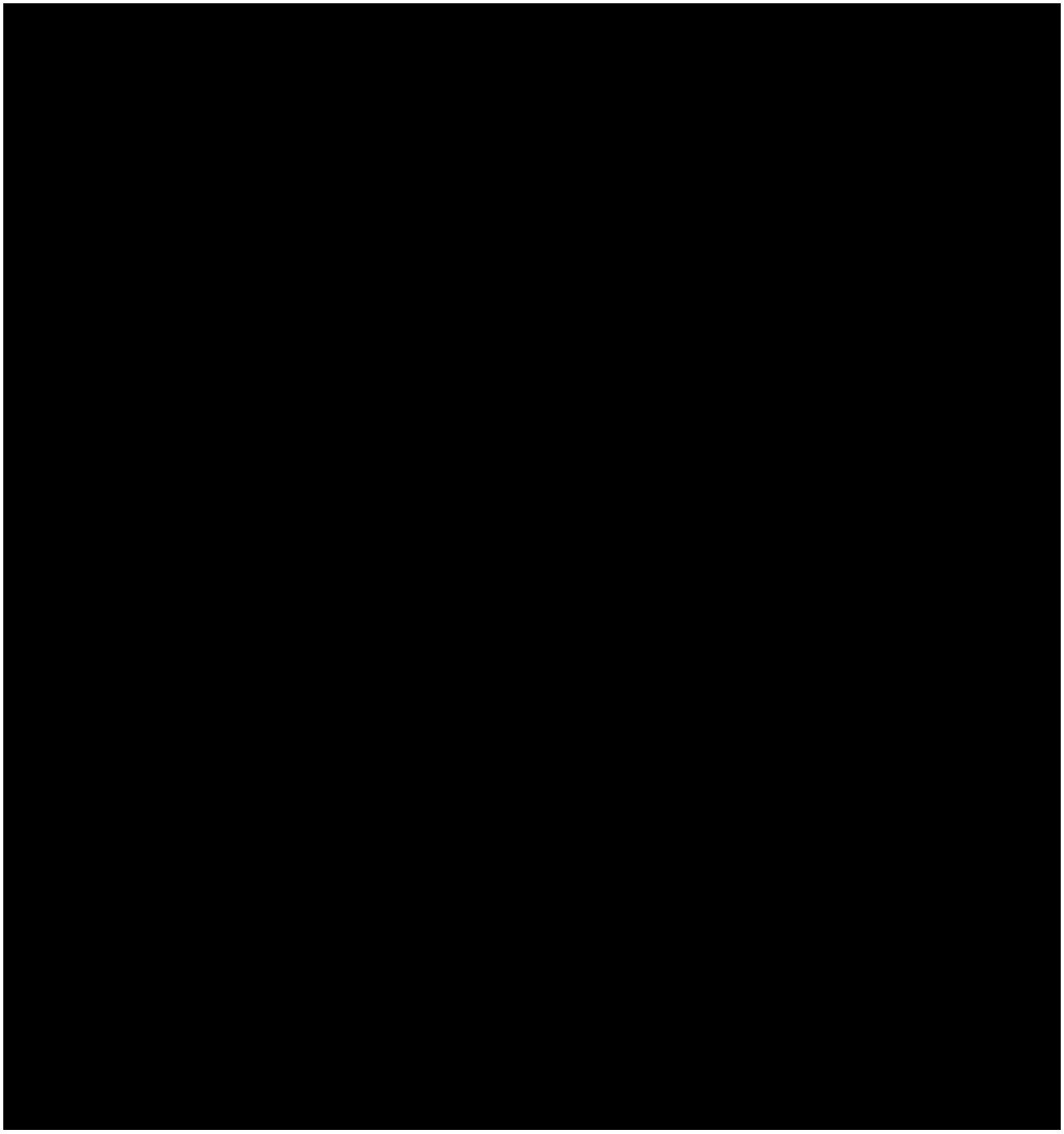
List of Figures

List of Photographic Plates (Appendix B)

List of Tables

Colorado Office of Archaeology and Historic Preservation
CULTURAL RESOURCE SURVEY MANAGEMENT INFORMATION
Please complete this form and attach a copy behind the Table of Contents of each survey report.

Project : The Colorado Wickiup Project Phase VII: Documentation of Selected Ephemeral Wooden Feature Sites in Rocky Mountain National Park, Colorado.



PART I: PROJECT OVERVIEW

Colorado Wickiup Project Background

The text accompanying an exhibit in the Ute Museum in Montrose in which a field-collected wickiup has been reconstructed reads, in part:

> Wickiups are widely known but rarely well-preserved in the state's archeological record. Compared to archeological sites dating to the Archaic and Formative eras of prehistory on Colorado's Western Slope, wickiups of the late prehistoric period and that just following are very rare. Almost no undisturbed wickiups have been recorded. Few exist in partial remains and even fewer have been archeologically tested. Site inventory data in the Colorado Historical Society's Office of Archeology and Historic Preservation list [relatively few] known wickiup sites of any level of preservation or archeological integrity in the whole state. This [structure in the display case] is the only early example known to survive in an educational institution.

Although the on-going research of the Colorado Wickiup Project (CWP)—and an increasing awareness of ephemeral aboriginal wooden features by the archaeological community at large—is beginning to make obsolete some of the above statements, the point is well taken: wickiups, or "sienkagan" in the Ute language (Clifford Duncan, personal communication 6/11/10), and other associated wooden features are "regarded as among Colorado's rarest and most fragile Native American sites" (Baker, Carrillo, and Spath 2007:104).

Almost universally attributed to the Utes, the state's wooden features represent the cultural heritage of the only indigenous people to reside within Colorado from prehistory to the present (ibid:29). Unfortunately, a preponderance of such sites and features have yet to be fully documented and they are increasingly threatened by disintegration from natural processes, fire, and destruction by livestock, wildlife, and human actions, particularly in areas of rapid energy development and population growth such as the Western Slope.

Dominquez Archaeological Research Group, Inc. (DARG), with funding from the Colorado State Historical Fund and the Bureau of Land Management (BLM), initiated the Colorado Wickiup Project (CWP) in 2003. The primary objective of the project is to mitigate the loss of information about Colorado's aboriginal wooden features to the extent possible by thoroughly recording all known wooden feature sites, collecting materials for chronometric analysis, and conducting extensive data recovery—including metal detection and excavation—of significant sites. Long-range goals of the project include the development of a dedicated aboriginal wooden feature data base and facilitation of collaborative research and education through information sharing and professional and public outreach.

Phase I of the CWP, conducted during 2004 and 2005, consisted of a review and assessment of existing knowledge regarding aboriginal wickiups and other wooden features located in Colorado, and the development of an archaeological context and a strategic plan for future investigations. Results were published in 2005 as The Colorado Wickiup Project Volume I: Context, Data Assessment and Strategic Planning (Martin, Ott, and Darnell 2005).

Phase II of the project, also conducted during 2004 and 2005, comprised the first in a series of field investigations. The Phase II survey recorded a concentration of varied and well-preserved wooden feature sites in the Gunnison Gulch area of Mesa County. A total of 29 wooden features were recorded, including 21 wickiups, a brush corral, an apparent windbreak, a culturally scarred juniper, a limbed tree (apparent wickiup pole production site), a juniper pole cache, and several standing utility poles. The project also served as a pilot test for proposed recording protocols, including an extensively re-designed wooden structure component form, GPS mapping, plan and elevation view drawings of significant structures, comprehensive photography, metal detection, collection of significant surface artifacts, and sampling of materials for chronometric analysis. Results were published in 2005 as The Colorado Wickiup Project Volume II: Cultural Resources Class II Reconnaissance Inventory for the Gunnison Gulch Area of Mesa County, Colorado (Martin, Conner, and Darnell 2005).

Phase III recorded and compiled data from a total of twelve sites in west central and northwest Colorado during 2005 and 2006. A total of 81 wooden features were documented, ranging in scope from single wickiups and tree platforms to a village containing 43 wooden features. Several new types of wooden features were identified during this study, as were some newly recognized patterns within known structure types, including: low tree platforms, ax-split/shaped "boards," a storage "shelf," and a number of wickiups with integrated "utility" poles. As a result of these findings, recording protocols were refined during the course of field work and the Aboriginal Wooden Feature Component Form was adapted to facilitate recording of these new data types. Selected collections were made of dendrochronological, radiometric, and macrobotanical samples. Five tree ring samples, one carbon sample, and two flotation samples were submitted to outside laboratories for analysis. Results of Phase III activities were published in 2006 as The Colorado Wickiup Project Volume III: Recordation and Re-evaluation of Twelve Aboriginal Wooden Structure Sites in Eagle, Garfield, Mesa, and Rio Blanco Counties, Colorado (Martin, Ott, and Darnell 2006).

Phase IV activities of the Colorado Wickiup Project in 2007 focused primarily on BLM administered lands in Rio Blanco County, Colorado in a region of the northern Piceance Basin within the Yellow Creek drainage. The area, referred to in our reports as the Yellow Creek Study Area, incorporates 44 previously recorded wickiup sites containing at least 114 aboriginal wooden features. During Phase IV fieldwork a total of 15 sites were revisited or newly discovered and 70 aboriginal wooden features were recorded on 14 of these sites. Additionally, sites with wooden features were newly discovered and recorded during independent Class III inventories conducted by Grand River Institute in 2007 that were incorporated into our Yellow Creek Study Area totals (Martin and Ott 2009 and Conner 2007). Also, unaffiliated DARG

research and Cultural Resource Management (CRM) activities in 2007 were included in that report in which aboriginal wooden features were re-visited as well as newly recorded in Moffat, Garfield and Mesa Counties (Martin and Ott 2007a, Martin and Ott 2007b, and Martin and Conner 2007). Phase IV included a baseline assessment of the Yellow Creek Study Area's potential eligibility for nomination to the National Register of Historic Places as an archaeological district, multiple property, or other designation. An assessment of NRHP eligibility for the Study Area was presented in Part II of that report.

Phase V, again, concentrated on aboriginal wooden feature sites in The Yellow Creek Study Area. This region, and the Piceance Basin as a whole, is being impacted by energy development activities from natural gas exploration and development and oil shale research. One of the sites investigated during this phase was the unique and highly productive Ute Hunters' Camp (5RB563), where the occupants were living in canvas wall tents, tending horses, smelting lead, reloading bullets, processing deer carcasses, and possibly working leather. This site became the first site to be test excavated as a part of the CWP. These tests produced nearly 500 Protohistoric/early Historic "trade" artifacts and our findings there and throughout the CWP, to paraphrase one of the BLM archaeologists overseeing our research, are rewriting the final chapter of the sovereign Ute occupation in western Colorado. The Phase V activities at five other wooden feature sites in the Piceance Basin were also productive, resulting in "mitigation level" documentation of a total of 21 structures and other wooden features (Martin and Brown 2010a).

Phase VI involved, in part, test excavations at the Black Canyon Ramada (5DT222). This unique site consists of a partially collapsed flat-roofed sunshade, or ramada, built against the south side of a sandstone bedrock outcrop face. In addition to the wooden feature, the site produced lithic projectile points, other chipped stone tools, lithic debitage, Brown Ware sherds, thermal features, and evidence of metal goods in the form of wire fragments and ax-cut marks on feature elements and nearby trees. Dendrochronological dates for the site indicate that the ramada was constructed significantly later than the occupation associated with the lithic and ceramic artifacts, which appear to reflect a Formative age aboriginal occupation. Phase VI activities at four other wooden feature sites resulted in thorough documentation of 52 additional wooden features and the collection and analysis of numerous lithic, metal, and glass artifacts—several of which provided examples of artifact classes new to the project. One dendrochronological sample provided the earliest evidence yet procured by the Project for the presence of metal artifacts and horses in Colorado—AD1795 at site 5ME469.

An additional undertaking by the DARG wooden feature investigative team that was not formally a phase of the Colorado Wickiup Project was conducted as an SHF Archaeological Assessment Grant in 2010 as a revisit to one of the sites originally documented during Phase VI—the Pisgah Mountain Wickiup Village (5EA2740). This assessment entailed the comprehensive recordation of all 28 wooden features and sub-features at the site in addition to an extensive program of metal detection. The investigations resulted in the recovery of 116 field specimens, including 21 tree-ring samples and scores of associated lithic, metal, glass, and

wooden artifacts. The results of the dendrochronological analysis indicate an occupation during the fall or winter of AD1853.

Phase VII Project Overview and Summary of Findings

The Phase VII activities, in Rocky Mountain National Park, involved the comprehensive documentation of 36 wooden features on 20 sites, including seven newly discovered resources. This phase of the Project provided the first opportunity for the researchers to investigate wooden feature sites on the Front Range of the Rocky Mountains, in a national park setting, and, with only two exceptions, in the Montane Life Zone. As a result, marked differences between the results of the CWP investigations at RMNP and those in the piñon/juniper environment of western Colorado were documented. New classes of wooden features were recorded and significant differences were noted in such things as the average number of features per site, the average number of poles per feature, pole length and interior head room, the rigorous adherence to a specific species for pole selection, the ratio of pole caches to wickiups, and the striking lack of portable artifacts found during Phase VII. A summary of the site and feature data from the all of the above sites and from all seven phases of the CWP is included in Tables 1, 3 through 5, and A-1 of this report.

Dominquez Archaeological Research Group's programs of public outreach and education continues in the form of presentations and educational programs for the professional and avocational communities, and the general public. Since the inception of the CWP, Curtis Martin, Principal Investigator, and Richard Ott, Project Coordinator, have delivered over 35 separate papers and PowerPoint presentations, and additional appearances are already scheduled for 2012. In addition, Martin continues to educate a new generation of archaeologists about aboriginal wooden features and the Protohistoric Era as part of his Field Methods in Archaeology course at Colorado Mesa University.

Location of the Project Area

The entirety of the Phase VII research was conducted in the east central portion of Rocky Mountain National Park—in the area immediately to the west of the town of Estes Park. This area is the most developed portion of RMNP and, consequently, where a majority of the cultural resource management field work has been conducted in the past—resulting in the discovery of archaeological sites including a majority of the park's known wooden feature sites. Accordingly, the project was focused in this area. All of the resources discussed herein are situated within Larimer County.

Environment

The Phase VII sites are all found within the Montane Life Zone or ecosystem—a region of ponderosa pine forests and open grassy meadows that dominates the lower elevations of the park (Smithson 2009). The Montane Zone typically occurs between the elevations of 8,000 and 10,000 feet above sea level. In addition to the ponderosas, the other principal plants in the zone

include lodgepole pine, Douglas fir, aspen, common and Rocky Mountain juniper, blue spruce, cottonwood, mountain ash, birch, maple, and alder (Pfaffmann 2007, Tekiela 2007, and Kavanagh 2010). A variety of forbs, grasses, and wildflowers complete the understory vegetation and include chokecherry, wild raspberry, wild strawberry, corn lily, monument plant, poison ivy, Oregon grape, ferns, Columbine, penstemon, kinnikinnick, Indian paintbrush, Jacob's ladder, geranium, larkspur, wild rose, mule's ears, etc.

Mule deer, elk, and coyote are common, as are bighorn sheep, black bear, bobcat, lynx, mountain lion, fox, skunk, badger, weasel, squirrels, ground squirrels, porcupine, marten, mice, bats, voles, and various other rodents, reptiles, and amphibians. Bird species observed in the area include wild turkey, raven, crows, magpies, owls, jays, grouse, Red-tailed and Cooper's hawks, goshawks, woodpeckers, chickadee, and others.

In the present day, average temperatures in the park range from well below 0°F to the upper 80s. Estes Park's average maximum temperature ranges from 37.7°F in January to 78.2°F in July with average minimums for the same months of 15.5°F to 46.0°F. Average annual precipitation is 15.76″ with monthly averages ranging from 0.42″ in January to 2.42″ in July. Snowfall averages 69.7″ per year and is heaviest in the months of February through April when over a foot per month is not uncommon. As elevation increases to the west of Estes Park, temperatures cool and precipitation increases (statistics are from the Western Regional Climate Center, wrcc@dri.edu , and are based on the period from 2/1/1896 to 5/31/1994).

Present land use in the project area is primarily in the form of recreational activities such as hiking, backpacking, camping, fishing, rock climbing, cross-country skiing, and snowshoeing. Probably the most popular of activities are scenic drives and wildlife viewing. A vast majority of the park visitors do not wander far off of the established roads and trails, which bodes well for the cultural resources and is a significant factor regarding the well preserved nature of some of the aboriginal wooden features. Many of those near trails, however, show recent evidence of having been altered by visitors.

Culture History

Thorough discussions regarding the paleoclimate, culture history of Colorado in general, and Ute culture history specifically, have been presented in the Phase I through Phase V reports for the Colorado Wickiup Project and will not be reproduced here. It is recommended that the reader refer to those documents for this information (Martin and Brown 2010a; Martin, Conner, and Darnell 2005; Martin and Ott 2009; Martin, Ott, and Darnell 2005; and Martin, Ott, and Darnell 2006) as well as Conner et al (2011). Although most of this information is valid for north central Colorado and the Front Range, the archaeology and culture history described in these reports is primarily relevant to the western portion of the state.

For information directly pertinent to the northern Rockies and Platte River the reader is directed to the numerous archaeological reports and reference materials from this area.

Suggested references most germane to the project area and the Protohistoric Era include the following (full bibliographic references are presented in the "References" section of this report):

Baker, Carrillo, and Späth
2007 Protohistoric and Historic Native Americans (in Church et al 2007).

Benedict
1996 *The Game Drives of Rocky Mountain National Park*.

Brunswig, Diggs, and Montgomery
2009 Native American Lives and Sacred Landscapes in Rocky Mountain National Park.

Cassels
1997 *The Archaeology of Colorado*.

Clark, Bonnie
1999 The Protohistoric Period (in Gilmore et al 1999).

Diggs and Brunswig
2006 Modeling Native American Sacred Sites in Rocky Mountain National Park.

Gilmore et al
1999 *Colorado Prehistory: A Context for the Platte River Basin*.

Kornfeld, Frison, and Larson
2010 *Prehistoric Hunter-Gatherers of the High Plains and Rockies, Third Edition*.

Toll
1962 *Arapaho Names & Trails: A Report of a 1914 Pack Trip*.

In western Colorado, where a preponderance of the CWP investigations have occurred in the past, the ephemeral wooden feature sites can quite confidently be attributed to Protohistoric to early Historic Era Ute occupations, and possibly Shoshone in the northwestern part of the state. By comparison, however, in the portion of the state that now includes RMNP, several additional tribal groups are represented in the ethnographic past. From the early to mid-19th Century, the best historically and ethnographically documented tribes in the area were the Arapaho and the Yamparika and Parusanuch bands of the Ute (Brunswig, Diggs, and Montgomery 2009) who, consequently, are considered the most likely architects of the features in the park (Karen Waddell—RMNP, and Paul Alford—USFS, personal communication), however, other tribes are known to have inhabited or frequented the area as well. Based on extended interviews with two Arapaho elders, Oliver Toll (1962:35) states that "after the Arapahos left this region…the Utes came in, so that many settlers regard the region as having been permanently occupied by the Utes; while in fact, before the white men came, Estes Park

was regarded by the Arapahos as their own territory, and was held by them against all other tribes."

Pertinent to the CWP, the following summary of the Protohistoric period in the mountains of north central Colorado is presented by Clark (1999:309-310):

> In the Platte River Basin, the Protohistoric period was a period of cultural dynamism. The Utes were not the only group utilizing the [area], especially the mountain parks of North Park, Estes Park, and South Park. As both travel corridors and ideal big game refuges, the mountain parks drew in Shoshones and Comanches, as well as plains-oriented groups.
>
> The High Plains were home to an ever-shifting population during the Protohistoric. [Sites attributed to a] complex known as the Dismal River are now widely accepted as manifestations of Apache culture [who] ranged from sedentary horticulturalists to mobile hunter-gatherers. The Apache were in the Platte Basin only until the 1700s. Together with the Ute, the Comanche drove out the Apache (Cassells 1983).
>
> Galvanized by the introduction of guns and especially horses, the Plains groups experienced a rapid cultural and territorial change. The two most represented groups were the Arapaho and Cheyenne. A mixed camp of Arapahos, Comanches, Kiowas, Kiowa-Apaches, and Cheyennes was reported by Major Long during his 1819-1820 expedition to the Rocky Mountains (Fuller and Hafen 1973) About this time, most of the Comanches moved farther south into New Mexico and Texas.

Clark (ibid) states that over 130 sites with components identified as being from the Protohistoric period, which she defines as AD1540-1860, have been identified in the Platte River Basin study area. Only eight sites in the mountains of the basin have yielded absolute chronometric dates within this time range. The site types consist mainly of open camps and lithic scatters but also include stone circles, sheltered camps, sheltered lithic scatters, rock art, battlefields, trails, culturally peeled trees, wickiups, and tipi rings. These components are recognized by diagnostic artifacts such as projectile points, ceramics, and trade artifacts. Specific to the Ute, who Clark considers "foremost" among the groups utilizing the mountains, the diagnostics include Uncompahgre Brown Ware pottery—differentiated from Shoshone Intermountain Ware by vessel shape—and Cottonwood Triangular and Desert Side-notched projectile points, the latter of which she admits are "very difficult" to distinguish from Plains Side-notched points.

There does not appear to have been any systematic research published regarding variations of wickiup design and construction between the various cultural groups represented in the state during the Late Prehistoric, Protohistoric, or Historic periods, nor have the findings of the CWP produced any evidence of such. It is well known, however, that the hide or canvas

covered tipi—designed to be dismantled and transported to the next camp—was eventually adopted by the Ute upon their acquisition the horse during the Protohistoric. It is likely that the Ute practice of taking women hostages from the Cheyenne, Arapaho, and other Plains groups expedited this cultural exchange of house style.

Also during early contact times, Euro-American made canvas wall tents and other forms of housing were obtained from traders and military sources (Martin and Brown 2010a). The newly-acquired forms of portable shelter such as the tipi and tent were quickly adopted by the Ute and other Native groups, however, the construction and use of expedient wickiups has been documented, by historic photographs and the dendrochronological dating results of the first six phases of the Colorado Wickiup Project, to have also continued well into the early decades of the 20th Century.

Known Wickiup and Wooden Feature Sites in the Region

Regarding wickiups, Clark (1999) reports only four sites in the Platte River Basin: the East Branch Wickiup (5JA651), and the Crosier Mountain wickiups (5LR1197-1199), which reportedly contain a total of 17 structures, although their authenticity as human-made features as opposed to natural tree-falls apparently remains in question.

Two additional wickiups in the region were recently drawn to the attention of the CWP by U. S. Forest Service archaeologist Paul Alford (personal communication): 5CC1347 in Clear Creek County and a newly discovered site in Boulder County that has not yet been assigned a Smithsonian designation.

A search of the cultural resource files at the curatorial facility in RMNP produced a list of 44 sites in the park that mentioned or documented expedient wooden features, primarily "lean-tos" and "wickiups." Many of these, particularly the single-sided lean-tos, have been interpreted by the original recorders as being of "historic" and/or "Euro-American" construction. As similar lean-tos have been recorded on Ute wickiup sites by the CWP, the project, and the Park Service cultural resource managers, have approached DARG's research in the park with an open mind regarding the cultural and temporal affiliation of all such ephemeral features.

Twenty-three of the 44 sites were selected for study during the Phase VII investigations. Fifteen of these were located by the field crew and documented to the established standards of the project, and the other eight were sought for but not found. While in the field, an additional seven unrecorded wooden feature sites were newly discovered and recorded for a total of 22 documented resources as described in the "Study Findings for Phase VII" section of this report.

Project Goals and Objectives

Phase VII of the Colorado Wickiup Project is the sixth in a series of field reconnaissance and documentation projects directed toward known, but insufficiently documented, wooden

feature sites and locales. The primary objectives of the project's field activities are to comprehensively document these cultural resources and continue to develop and refine recording protocols that will—to the greatest feasible extent—mitigate the loss of valuable archaeological and ethnographic information due to the inevitable disappearance of Colorado's wickiups and other ephemeral aboriginal wooden features.

The CWP's preservation and cultural resource management objectives include evaluation of resources for eligibility to the National Register of Historic Places (NRHP), assessment of the current condition of wooden structures and sites, as well as the potential effects of continuing natural and human impacts on archaeological integrity, and recommendation of actions for the mitigation of adverse effects. One of the primary long-term objectives of the project is to add significantly to the Late Prehistoric, Protohistoric, and early Historic Native American archaeological database, thereby expanding the body of knowledge available to tribal, management agency, and research community stakeholders concerned with the preservation of Native heritage values in Colorado landscapes. Short-term project objectives include documentation of additional aboriginal wooden feature sites and test excavation of significant sites. Specific sites targeted by DARG for study in the 2012 field season are described in "Future Directions and Proposed Field Activities."

It is suggested that the project's strategy of "preservation through documentation" deserves continued, accelerated, and expanded effort and commitment of resources. The knowledge thus far gained about Colorado's aboriginal wooden structures has further deepened an appreciation of these fragile archaeological resources and has more than confirmed the CWP's original assessment of their immeasurable value not only to Protohistoric archaeology but to the archaeology of the earlier Late Prehistoric, Formative, Archaic, and Paleoindian periods, as well as to the living descendants of the people who created them. In addition to field documentation and the establishment of an expanding database of information, the CWP has begun to expand the scope of research to include broader research questions and preservation challenges related to aboriginal wooden feature sites in Colorado.

Field and Analytic Methodology

The Project uses standard Office of Archaeology and Historic Preservation (OAHP) forms as the basis for its field recording protocols, including the Colorado Cultural Resource Survey Management Data Form, the Prehistoric Archaeological Component Form, and the Cultural Resource Reevaluation Form. For detailed documentation of wooden features, our primary recording form is the Aboriginal Wooden Feature Component Form (Appendix C) as developed by CWP researchers based on direct field experience and attribute lists originally drawn from Sanfilippo (1998), BLM archaeologist Michael Selle, and others. It has evolved from the former Conical Wooden Structure Form (ibid), and continues to be modified for the purpose of providing a single form for the documentation of all types of ephemeral aboriginal wooden features in archaeological contexts.

All Phase VII work was performed according to the guidelines set forth by the OAHP of the Colorado Historical Society. All cultural resources were recorded to standards set by the OAHP and the BLM utilizing methods established during the initial six phases of field work and research by the Colorado Wickiup Project.

Mapping of site boundaries and the location of selected surface artifacts and features was conducted using Trimble and Garmin GPS units and USGS 7.5' series topographic maps. Site boundaries were determined by the extent of observable surface artifacts and features and/or a protective buffer zone. However, if found, it was beyond the scope of the project to conduct intensive mapping of all lithic debitage, or the determination of the definitive extent of lithics on site surfaces, when such artifacts were numerous—not the case in any of the RMNP resources.

Very few artifacts were encountered on the surface of the Phase VII sites, and none were detected via metal detection with the exception of materials which were determined to be of modern association. No specimens considered to be of Native American affiliation that could be considered temporally or culturally diagnostic were found, and no artifacts of any kind were collected. Those artifacts that were found were briefly described, mapped in place, and left *in situ*. When additional artifacts or features were found during CWP field work that were outside of previously established site perimeters, the boundaries were expanded accordingly. The only collections made of any type were tree-ring samples for dendrochronological analysis (Table 2). A total of 17 samples were made. Three of these were submitted to the Laboratory of Tree-ring Research at the University of Arizona for analysis, however none produced datable sequences.

Areas surrounding sites that appeared likely to produce additional wooden features were always surveyed for such occurrences. For each individual wooden feature, crew members constructed maps, made digital photographs, and recorded observations and measurements, including the completion of an Aboriginal Wooden Feature Component Form.

Feature plan maps were constructed for both standing and collapsed structures when warranted. These were either in the form of sketch plans—in the case of several collapsed features—or methodically-constructed floor plans, in the case of several standing wickiups and lean-tos, which show the locations of the bases of standing poles as well as other feature elements. Accurate plan maps of individual standing wickiups and other types of shelters were constructed by hanging a plumb bob from the apex or peak of the structure to establish a central datum, then, using a metric tape and a Brunton pocket transit, the collapsed poles and the "footprints" of the bases of standing feature elements were plotted on polar-coordinate grid paper (Figures 16 and 21 are examples of this technique). In all cases a magnetic declination of 12.5° from true north was employed.

A Fisher M-Scope 1236-X2, and a hand-held White's Bullseye II Pinpointer (for isolating individual specimens) were utilized to scan the majority of the site areas with special emphasis within and surrounding each of the wooden features as well as within areas of the sites that were deemed likely to contain buried or concealed cultural resources. Metal detection of

Protohistoric and early Historic sites such as those presented herein has proven to be an absolute requirement in our efforts to interpret and date the activities represented. Along with the use of extremely fine mesh sifting screens (window screen and 1mm mesh soil sieves) to isolate bullet primers and minute glass seed beads when warranted during excavation, the metal detection activities have proven invaluable in the location of diagnostic artifacts. Without these two innovations many Protohistoric Native American sites would be misinterpreted as Historic Euro-American resources, or missed altogether, and individual wooden features could similarly be overlooked. A technique that has been established for the metal detection of sites where numerous metallic artifacts exist is to utilize wooden golf tees to mark the locations of metal detector "hits," rather than metal pin flags, which interfere with subsequent metal detection.

A triangular pattern occasionally results when a conical structure collapses to one side, or a wheel-spoke pattern when one gradually sags and settles directly to the ground surface. A six-foot aluminum step-ladder was often utilized for photographing these collapsed structures from an elevated vantage point in order to reveal the nature of the features.

As discovered by the CWP field crew during Phase VII, as opposed to the situation in the relative sparse vegetation of the piñon/juniper environment, in areas of dense forestation with large amounts of deadfall, it is frequently difficult to determine with confidence when clusters of poles leaning against standing trees are a result of natural or human causes. The same holds true for collapsed poles on the ground surface. This is particularly true with aspen timbers—the species that was apparently highly favored by Native architects in the Montane Life Zone. Since aspen groves represent single organisms, when they die, a number of trees often fall over at the same time, or in the same direction, causing groups of timbers to cluster and give a false impression of artificially-placed poles.

Ax-cut pole ends or the presence of hearths or other artifacts would aid in the determination of artificiality, however such items are rarely found in Montane situations, even in the case of obviously human-constructed wickiups. Pole bases that are spread apart, or fanned out in a semi-circular pattern, is one of the determining factors sought for by the CWP researchers, however, artifactual pole caches are often comprised of bunched together timbers—either leaned into a tree or cached on the ground surface. In the case of collapsed wickiups, either circular ("wheel-spoke") patterns or triangular ("conical") patterns are sought for. At any rate, field researchers are urged to utilize care and caution when attempting to ascertain the cultural origins of collapsed or leaning timbers.

Field notes from Phase VII activities are on file at Dominquez Archaeological Research Group, Inc. (DARG) in Grand Junction. Copies of the report and digital photographs have been submitted to Rocky Mountain National Park and to the OAHP.

PART II: STUDY FINDINGS AND SITE DESCRIPTIONS

Table 1 provides a summary of the findings from Phase VII of the CWP. A total of 30 archaeological resources were addressed during the field work at Rocky Mountain National Park. Of the 22 sites described herein, 15 consist of revisits to previously recorded sites and seven are newly discovered sites found during searches for previously known resources. The remaining eight sites are resources that were searched for, using existing site records and location maps, but never located. A total of 36 wooden features were recorded on 20 of the documented sites that are considered of, or potentially of, Native American construction including 13 wickiups, ten cultural pole caches, five utility poles and racks, two lean-to shelters, two culturally modified trees, two firewood caches, a brush animal trap, and a windbreak. Two of the previously recorded sites were located but did not contain wooden features, and four additional wooden features were found that are of obvious historic or modern construction and have been chronicled herein merely for comparative and narrative purposes.

Descriptions of each site and evaluations of significance follow. The UTM location data can be found in Appendix A. Table A-1 provides location information and USGS Quad maps showing individual site locations. Photographic plates of selected sites and features are in Appendix B and detailed information for the Phase VII resources is provided in Appendix D, including OAHP Reevaluation**,** Management, and/or Prehistoric Component forms for each site, and an Aboriginal Wooden Feature Component Form for each wooden feature considered to be of potential Native affiliation. Distribution of Appendices A and D are restricted to land managing agencies.

Review of Site Significance

The National Historic Preservation Act of 1966 (NHPA) directs federal agencies to evaluate the significance of recorded cultural properties and their qualifications for inclusion in the National Register of Historic Places (NRHP). The statements of significance included in this report are field assessments to support recommendations to the NPS and State Historic Preservation Officer (SHPO). The final determination of site significance is made by the controlling agencies in consultation with the SHPO and the Keeper of the Register.

The Code of Federal Regulations was used as a guide for the in-field site evaluations. Titles 36 CFR 50, 36 CFR 800, and 36 CFR 64 are concerned with the concepts of significance and historic value of cultural resources. Titles 36 CFR 65 and 36 CFR 66 provide standards for the conduct of scientific data recovery activities. Finally, Title 36 CFR 60.6 establishes the measure of significance that is critical to the determination of a site's NRHP eligibility, which is used to assess a site's research potential:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting,

materials, workmanship, feeling, and association, and a) that are associated with events that have made a significant contribution to the broad patterns of history; or b) that are associated with the lives of persons significant in our past; or c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or d) that have yielded, or may be likely to yield, information important to prehistory or history.

Due to the fragile and ephemeral nature of aboriginal wooden features, the relative lack of detailed documentation and study of such resources, and their significant potential to yield valuable information regarding the prehistory, protohistory, and early history of Colorado's aboriginal cultures, a majority of the sites that contain such features are recommended as eligible to the NRHP and Colorado's State Register of Historic Places. "Any potential Ute household site from any phase of cultural change should be eligible for the National or State register unless it has been significantly degraded" (Baker, Carrillo, and Spath 2007:85). Protection and preservation of these resources is paramount. In 2003, Colorado Preservation, Inc. listed "Native American Arboreal Wickiup and Teepee Sites" as one of *Colorado's Most Endangered Places* due to the ongoing impacts of vandalism and natural degradation.

Table 1, below, presents summary descriptions and evaluations of the cultural resources recorded during Phase VII of the Colorado Wickiup Project. Seventeen of the sites described in this report have been field-evaluated as "Eligible" for inclusion in the National Register of Historic Places, two are recommended as "Not eligible," two were not evaluated due to a lack of wooden features, and one site (5LR4500) was incorporated into site 5LR4509.

Table 1: Summary of Cultural Resources:
The Colorado Wickiup Project Phase VII ~ Rocky Mountain National Park

Site Number	Description	Eligibility Recommendation
Previously Recorded Sites Reevaluated by the CWP (15)		
5LR4460	Hidden Valley Wickiups Boulder lean-to, pole cache, and firewood pile	Officially eligible
5LR4499	Partially collapsed freestanding wickiup	Eligible
5LR4500	[incorporated into site 5LR4509 as Feature 5A/5B]	N/A
5LR4503	Collapsed freestanding wickiup or pole cache	Eligible
5LR4509	Brunswig Wickiup Village Partially collapsed leaner wickiup, 7 pole caches, 2 utility racks	Eligible
5LR4511	Collapsed freestanding wickiup	Eligible
5LR4513	Collapsed freestanding (?) wickiup	Eligible

Site Number	Description	Eligibility Recommendation
5LR4514	Collapsed boulder lean-to	Not eligible
5LR4531	Dismantled/reconstructed boulder lean-to, windbreak, firewood pile	Not eligible
5LR4548	Hidden Valley Wickiups Brush animal trap and partially collapsed wickiup	Eligible
5LR6962	Pole cache and culturally-peeled ponderosa	Eligible
5LR6984	Large hearth area against boulder face	Not evaluated by CWP
5LR7002	Historic trash scatter at site of previously standing wickiup	Not evaluated by CWP
5LR10229	Partially collapsed and reconstructed leaner wickiup and burned log leaned against boulder	Eligible
5LR12899	Lightning Bear Wickiup [previously "5LRwick2"] Standing leaner wickiup	Eligible
Newly Discovered Sites Documented by the CWP (7)		
5LR12634	Partially collapsed wickiup (tipi frame?) or pole cache	Eligible
5LR12635	Bark-peeled ponderosa	Eligible
5LR12636	Collapsed freestanding wickiup and utility rack	Eligible
5LR12900	Tea House Wickiup Standing freestanding wickiup	Eligible
5LR12902	Standing leaner wickiup and utility pole	Eligible
5LR12903	Collapsed freestanding wickiup	Eligible
5LR12904	Pole cache	Eligible
Previously Recorded Sites Searched For But Not Found by the CWP (8)		
5LR2115	Aspenglen Wickiups: "Three collapsed wickiups"	Not evaluated by CWP
5LR2180	"Collapsed wickiup"	Not evaluated by CWP
5LR3857	"Suspected collapsed wickiup"	Not evaluated by CWP
5LR4512	"Hearth and simple wickiup leaning against tree"	Not evaluated by CWP
5LR4518	"Euro-American boulder lean-to"	Not evaluated by CWP
5LR7009	"Largely collapsed historic Native American wickiup"	Not evaluated by CWP
5LR7016	"Pole lean-to shelter"	Not evaluated by CWP

Site Number	Description	Eligibility Recommendation
5LR7033	"Lean-to"	Not evaluated by CWP
Newly Discovered Historic Wooden Feature Sites (not formally recorded)		
N/A	Historic conical brush spring house: Sprague's Ranch	Not evaluated by CWP
N/A	Modern lean-to and suspended poles near Horseshoe Park	Not evaluated by CWP
N/A	Modern "tipi" near the Glacier Basin Campgrounds	Not evaluated by CWP
N/A	New "tipi" near Sprague Lake	Not evaluated by CWP

PREVIOUSLY RECORDED SITES REEVALUATED BY THE COLORADO WICKIUP PROJECT (15)

5LR4460: The Hidden Valley Wickiups

Site 5LR4460 was initially recorded by Lisa Hanson and William Butler, archaeologists for Rocky Mountain National Park, in 1999 as part of their Cultural Resource Survey of the Deer Ridge Units 4 and 5 Prescribed Burns Project (Hanson and Butler 1999). At that time the site was described as "one standing (Feature A) and one collapsed (Feature B) wickiup, and associated flaked stone, flaked glass, and unmodified glass debris." Both clear (5 specimens) and brown (1) glass fragments were mentioned and it was noted that a clear bottle base with a maker's mark "exhibits flake removal in a large lunate (spoke shave) form." Also recorded was a "white quartz bifacially flaked scraper" located between the two wooden structures. All of these artifacts were collected and have presumably been curated at RMNP. The site was interpreted as a "historic American Indian temporary habitation site probably of Ute affiliation." They field evaluated the site as eligible for inclusion on the NRHP and it is one of a cluster of sites that they named the "Hidden Valley Wickiups."

The CWP investigations relocated the site at its previously recorded location and the site does not appear to have significantly changed in the decade-plus since its initial description. The field crew was able to relocate the previously recorded features and an additional feature; all of which were photographed, measured, and mapped with the GPS unit. Aboriginal Wooden Feature Component Forms were completed for each. The current project slightly increased the site size from its original dimensions of 25m by 45m to 60m northwest-southeast by 35m northeast-southwest to include a buffer zone around the wooden features. The original terminology for those features described in the initial recordation has been retained, as Features "A" and "B", and the newly recorded feature has been identified as Feature C accordingly. The

two features that were initially interpreted as wickiups have been re-categorized as a boulder "lean-to" (to differentiate it from the conical shelters in the western U.S. that are commonly assigned the "wickiup" designation) and a cache of wooden poles. In addition, a third feature, Feature C, has been documented as a firewood cache.

Site Description

5LR4460 is an open camp consisting of three aboriginal wooden features: Feature A, a boulder lean-to; Feature B, a cultural pole cache; and Feature C, a firewood pile (Figures 1 and A-3). Lithic, glass, and metal artifacts were recorded and metal ax-cuts were noted on the site.

The site is located on a southwest-facing, boulder-strewn talus situated at the southwest edge of an open meadow through which passes Hidden Valley Creek, at an elevation of 8980 feet (Figure A-1). The site is in the Montane Life Zone and vegetation consists of ponderosa pine, Engelmann spruce, Douglas fir, and lodgepole pine with an understory of shrubs, forbs and sparse grasses. The residual and colluvial soils consist of up to 8cm of highly organic dark brown duff overlying light brown decomposed granite of less than 25cm depth. Ground visibility, due to the duff layer, is approximately 5%.

A metal detector was utilized to scan the areas within and surrounding each of the wooden features. Two rusted iron fence staples were found and approximately 20 sherds of clear bottle glass were noted on the site surface, as well as a finely-worked stone biface tip of mottled white chert—possibly a projectile point fragment. The glass includes fragments of a vintage orange soda pop bottle (~1950s-1960s). It is difficult to determine which, if any, of the artifacts are directly associated with the wooden features. No artifacts were collected.

Although a dendrochronological sample was collected from a metal ax-cut timber on the site surface downslope from Feature A—which possibly had been a feature pole, and three others were taken from nearby ax-cut tree stumps, none of these samples were analyzed as it would be difficult to interpret the results in reference to the features. The presence of two lithic tools (the scraper noted in 1999 and the biface tip found by the current project), and the utilized bottle glass fragment described on the original site form, indicate at least one Prehistoric, Protohistoric, or early Historic Native American component at the site—possibly in direct association with the wooden features. The presence of more recent artifacts such as the fence staples and beverage bottle from the 1950s-1960s indicates a much later component, again, possibly the one responsible for the ephemeral features.

Regarding the nature of Feature A, although one-sided lean-to structures are typically considered to be of Euro-American construction, the Colorado Wickiup Project has demonstrated elsewhere that Protohistoric and early Historic Utes also made such shelters (Martin, Brown and Lindstrom 2011 and Martin and Ott 2009). Similarly, although the condition of the wooden cultural elements suggests significant antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret.

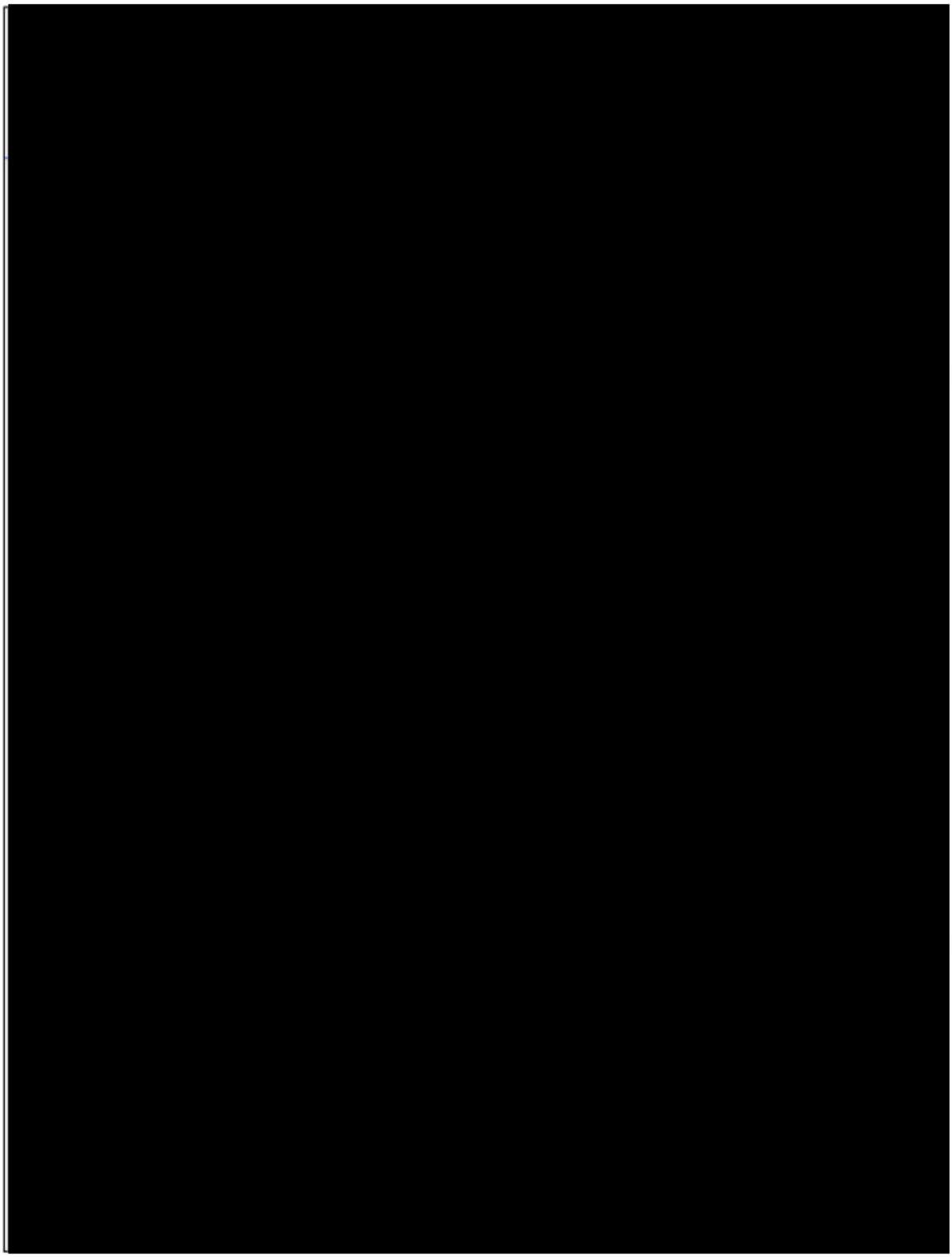


Figure 1. Plan map of 5LR4460, the Hidden Valley Wickiups

Feature descriptions

Feature A, originally recorded as a wickiup, consists of a boulder lean-to—a series of standing poles leaned against a vertical rock face to create a shelter. It is situated near the north end of the site. Twelve of the 18 aspen and coniferous feature poles are still standing (as they were in 1999) and are leaned against the southwest face of a granitic boulder or outcrop (Figure 2 and Plate 1). The bases of the poles are buried up to 6cm into the organic duff and rest on the upper surface of decomposed granite.

The floor of the shelter basically forms a rectangle that measures 3.1m by 1.4m and the internal height (headroom) is 1.3m. The resultant floor area is approximately 5.5 square meters. Although several collapsed feature poles now rest on the ground surface at this location, it appears as if the entryway was at the open, east-southeast end of the structure. This opening currently measures 1.4m in height and 1.1m in width at ground surface.

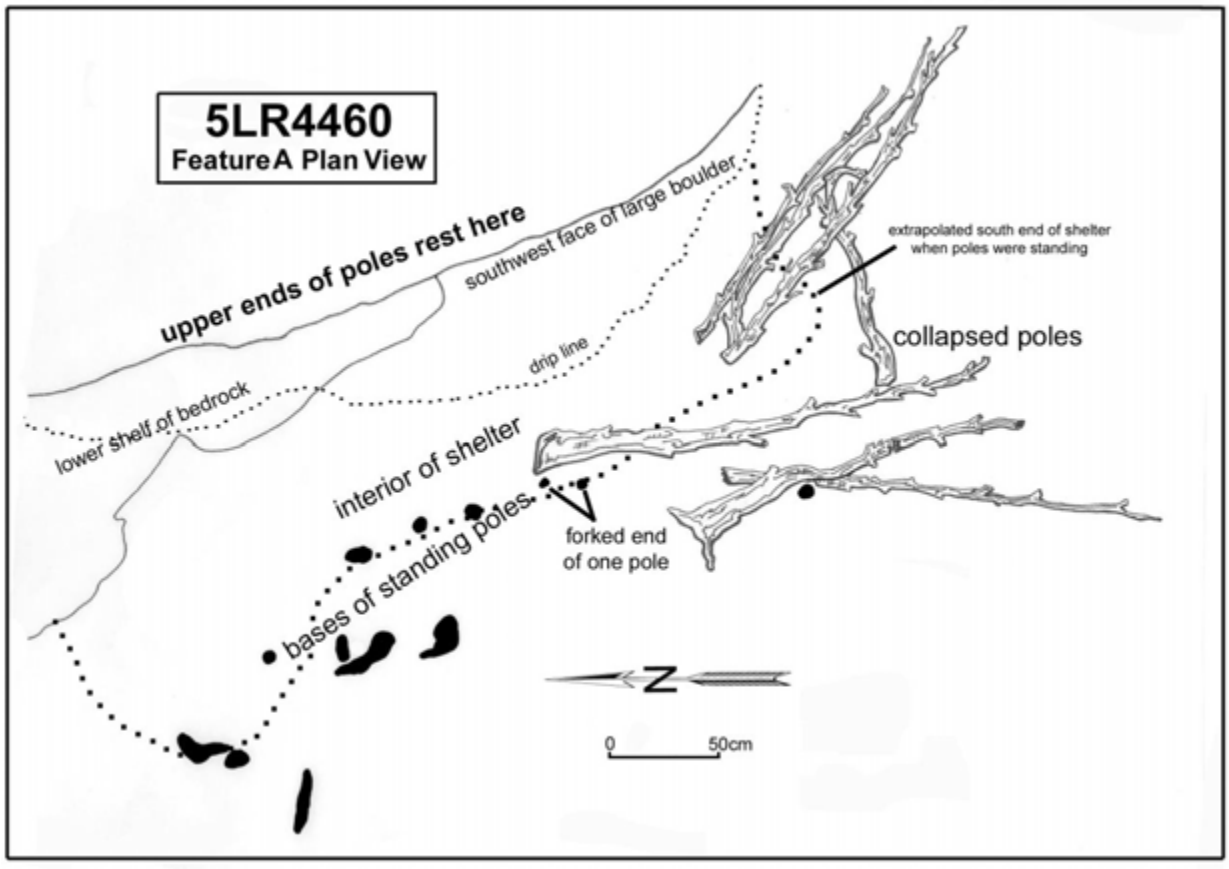


Figure 2. Plan map of Feature A, boulder lean-to, at 5LR4460

Feature B, originally recorded as a collapsed wickiup, appears to these researchers to be a cache of approximately 20 cultural poles resting on the ground on the north-northeast side of a Doulas fir canopy tree at the south end of the site. Although it is possible that the collection of aspen and coniferous branches and trunks represent a collapsed wickiup, the manner in which the poles now rest parallel to each other on the surface suggests that they have been intentionally laid in their current configuration. The timbers range in length from 0.4 to 2.9m.

Feature C, situated roughly half way between Features A and B, is an apparent cache of firewood. It consists of approximately 23 highly decomposed, partially limbed pieces of aspen and evergreen wood resting roughly parallel to each other on the ground surface that measure from 0.5 to 2.8m in length. Two similar, albeit less structured, concentrations of wood were noted immediately to the northeast and approximately eight meters to the southeast of Feature C (Figure 1), however neither gave the impression of having been culturally gathered and placed in their current position.

Evaluation and Management Recommendation

Site 5LR4460 was officially determined to be eligible for inclusion on the National Register of Historic Places in 1999. Regardless of the cultural and temporal affiliation of the site, the newly discovered wooden features and other artifacts during the present project have substantiated this site's eligibility according to Criteria D—has yielded, or may be likely to yield, information important in history or prehistory. Protection and preservation is recommended, however no further work is proposed by the current project.

5LR4499

Site 5LR4499 was initially recorded by Robert Brunswig and William Rhodes, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the site was described as a "Historic lean-to structure…[that has] moderately collapsed on itself. The part still standing has been impacted by natural processes." Although the site was originally field evaluated as not eligible for inclusion on the NRHP, it is currently listed on the Compass database at OAHP as need data.

Later in that same year the structure was test excavated by UNC and re-interpreted as a "largely intact aspen pole wickiup…suspected of being early Historic or Protohistoric Native American…tribal affiliation is believed to be Ute." Two adjacent 1m x 1m test pits were opened in the entryway area of the wickiup and an intact cobble-ringed hearth was uncovered "just below the covering of organic duff and soil, immediately inside the structure's…entrance." Two charcoal samples from the hearth produced radiocarbon dates of 60±40BP and "modern." A wood cellulose sample from a branch on one of the aspen feature poles produced a date of

150±40BP. No artifacts other than the features themselves were found at the site during the UNC activities.

The CWP investigations relocated the site, at its previously recorded location, and GPS-mapped, photographed, and measured the feature. An Aboriginal Wooden Feature Component Form was completed. The current project slightly increased the site size from its original dimensions of 10m in diameter to 20m in diameter solely for the purpose of enlarging the buffer zone around the wooden feature. No identifier was given to the wickiup by the previous recordation, so the CWP has named it "Feature 1."

Site Description

5LR4499 consists of a single partially collapsed wickiup, Feature 1 (Figures 3 and A-4). No associated artifacts were found on the site either during previous investigations or by the current project. The site is located near the base of the south lateral moraine of the Fall River Glacier, which forms the south side of the broad, open meadow of Horseshoe Park, at an elevation of 8550 feet (Figure A-1). The site is in the Montane Life Zone and surrounding vegetation consists of a fir and ponderosa pine forest with aspen and sparse grass. The colluvial soil consists of brown sandy silt overlain with up to 7cm of highly organic pine duff. Ground cover, due to the duff layer, is virtually complete.

A metal detector was utilized to scan the area within and surrounding Feature 1. Two fluted metal concrete or masonry type nails were found, along with black plastic sheeting, near the south and east edges of the feature: remnants of the UNC test excavations of 1999.

Two dendrochronological samples (FS7 and FS8) were collected from Feature 1 poles that showed evidence of having been harvested by beaver. Although the resultant dates from such poles would not necessarily indicate the actual year of construction of a man-made feature, it can be assumed that the trees were harvested by the beaver while alive, and that such downed timbers would have been collected and used by the architects of the shelter within no more than a few years. One sample, Field Specimen 7, was submitted to the Laboratory of Tree-ring Research for analysis, however it unfortunately failed to result in a recognizable date.

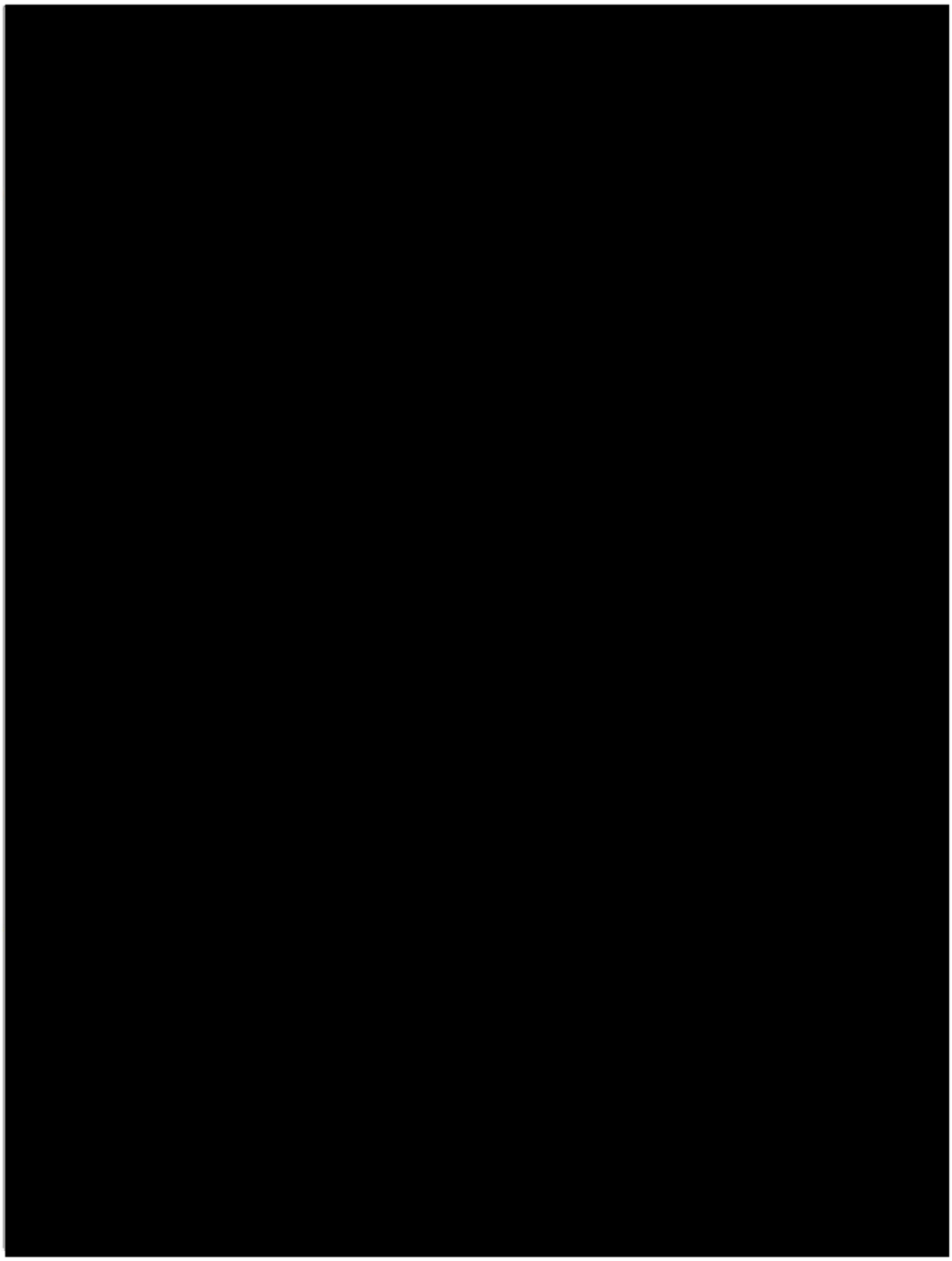


Figure 3. Plan map of 5LR4499 and 5LR12636

Feature description

Feature 1 is a partially collapsed, freestanding style, wickiup (Plate 2). Having notably slumped and collapsed in on itself and the ground surface since the photographs from 1999, only three of the 70 aspen feature poles can still be considered as actual "standing" elements; the remainder having fallen atop of, and now being supported by, each other (Plate 2).

Although it is now difficult to ascertain the exact size and nature of the structure while standing, it is evident that the floor of the shelter had been oval in shape and the entryway faced uphill and to the south-southwest. It is currently covered in duff, however the interior hearth is described on the original site forms as being an intact cobble hearth with large amounts of charcoal immediately inside of the entrance. A 1999 photograph shows what appear to be five cobbles defining a ring approximately 50cm in diameter on the exterior and 25cm in diameter on the interior of the cobble ring.

Although the condition of the wooden structural elements suggests significant antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, the nature of the shelter itself, and the results of the radiocarbon dating by UNC, suggest a Native American affiliation, rather than historic Euro-American. The CWP concurs with the Prehistoric Component form from 1999 that the feature is likely Native American and somewhere in the range of 150 years of age, however these researchers suggest that, in addition to Utes, the Arapaho should be considered as a possibility in terms of cultural affiliation.

Evaluation and Management Recommendation

Site 5LR4499 was recommended as not eligible to the National Register of Historic Places in 1999, and the OAHP Compass site currently lists it as need data. Considering the conclusion by both of the projects that have documented the site that the feature is a nearly intact Native American wickiup of Protohistoric or early Historic age, the CWP highly recommends that this site be considered as eligible for inclusion on the NRHP according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation are recommended, however no further work is proposed by the current project.

5LR4503

Site 5LR4503 was initially recorded by Robert Brunswig and William Rhodes, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the site was described as "an Aspen log cache *and* [italics by current authors] a wickiup which has collapsed in on itself" however no other descriptions, details, or maps are provided. Although the site was field evaluated as not eligible for inclusion on the NRHP, it is currently listed on the Compass database at OAHP as need data.

The CWP investigations relocated the site, 32m east-southeast of its previously recorded location, however only one wooden feature could be found at the site—a collection of timbers resting on the ground surface that matches the feature shown in the three photographs attached to the original site forms. It is speculated that possibly the original field notes from 1999 described the feature as a log cache *or* collapsed wickiup but was inadvertently transcribed on the final site forms as a cache *and* a wickiup. This is substantiated by the fact that UNC recorded the total site dimensions as "1m x 1m"—an area even smaller than the sole feature relocated by the CWP. Unfortunately, no site map is available from 1999, and the site records are too incomplete to determine whether one or two concentrations of cultural poles had actually been found resting on the ground. As a result, the site has been reanalyzed as a single wooden feature with no associated artifacts.

The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The current project increased the site size from its original dimensions of 1m in diameter to 20m in diameter for the purpose of creating a buffer zone around the wooden feature. As no identifier was given to the log cache or wickiup by the previous recordation, the CWP has identified it as "Feature 1".

Site Description

5LR4503 consists of what appears to be a single collapsed wickiup, Feature 1. It is possible that the collection of timbers is actually a pole cache resting on the ground that had never been erected as a structure. No associated artifacts were found on the site either during previous investigations or by the current project. The site is located near the base of the terminal moraine of the Fall River Glacier approximately 30m southeast of the east end of the open meadow of Horseshoe Park, at an elevation of 8500 feet (Figures 4 and A-1). The site is in the Montane Life Zone and surrounding vegetation consists of a fir, lodgepole, and ponderosa pine forest with aspen and sparse grass. The colluvial soil consists of brown sandy silt overlain with up to 7cm of highly organic pine duff. Ground visibility ranges from 0% to 3% due to the duff layer. A metal detector was utilized to scan the area within and surrounding Feature 1 with negative results.

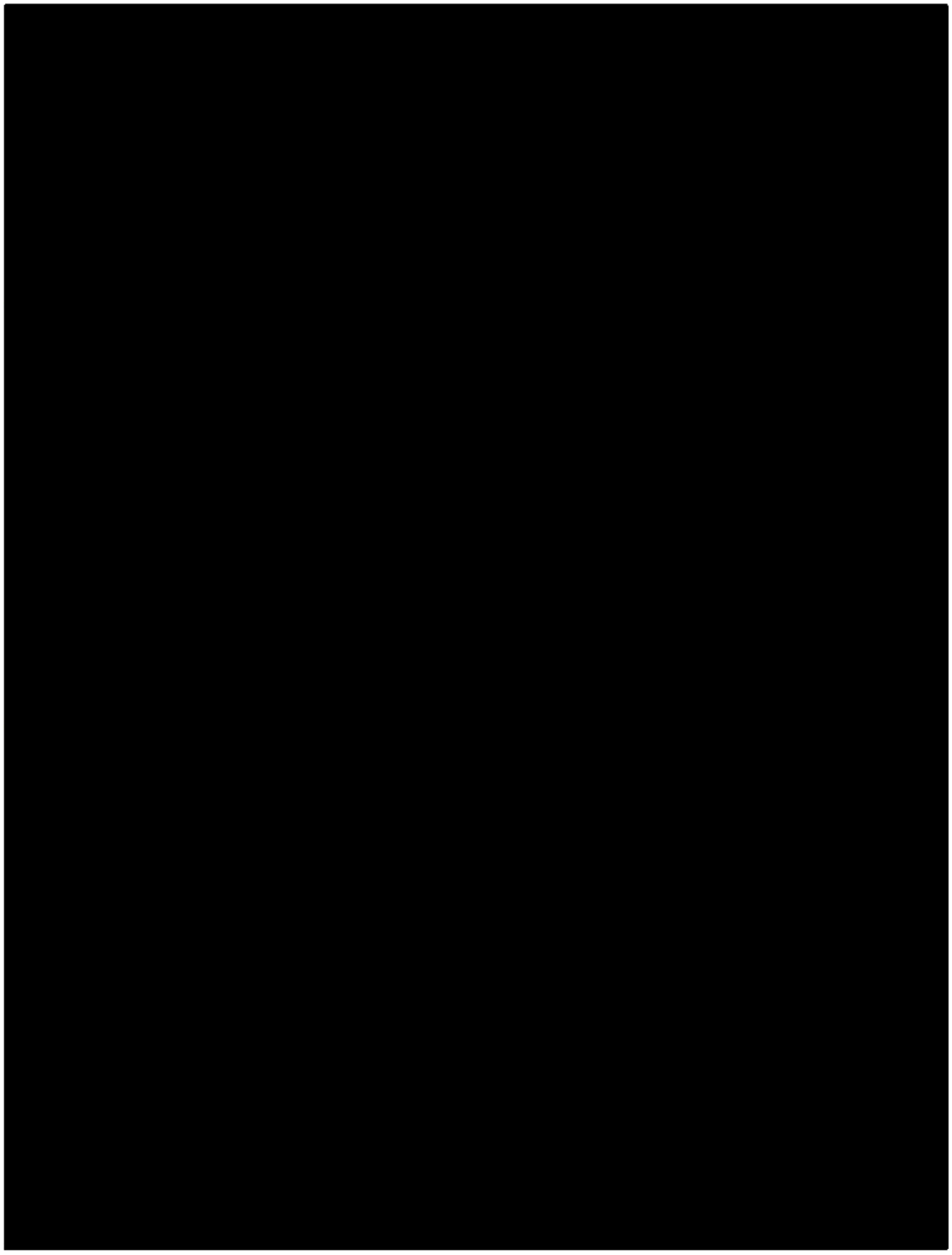


Figure 4: Plan map of 5LR4503 and 5LR12899

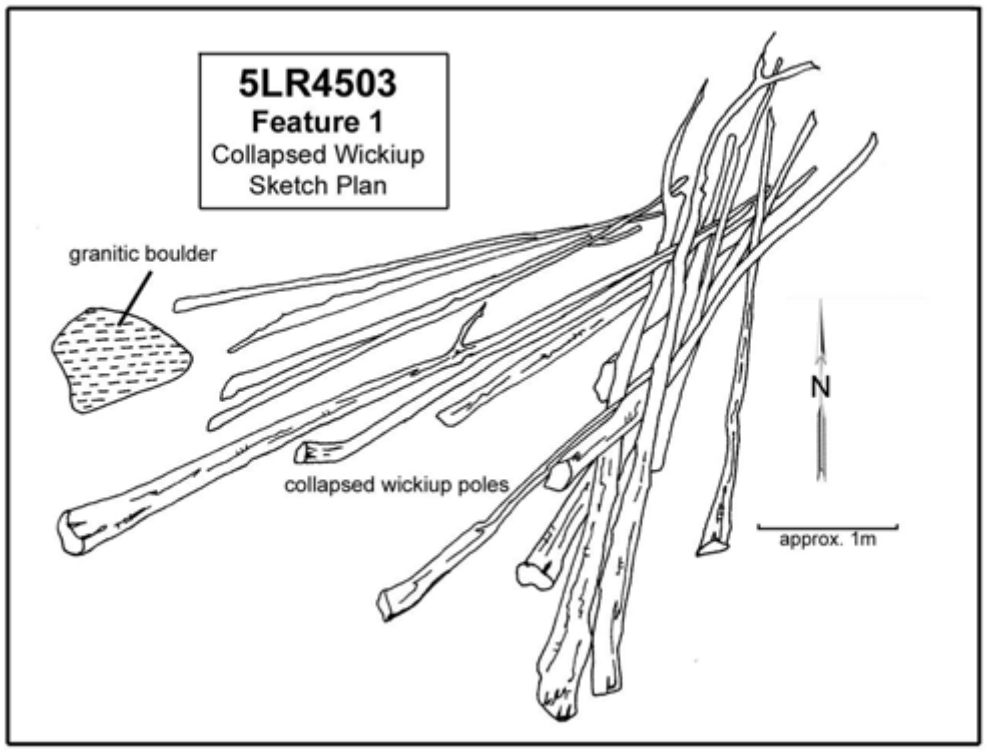


Figure 5. Sketch plan map of Feature 1 at 5LR4503

Feature description

Feature 1 appears to be a collapsed, freestanding style, wickiup consisting of a cluster of 16 aspen poles resting on the ground surface with their tips facing to the northeast and the butts to the southwest (Figure 5). With the exception of growth in the low ground cover, and the presence of an aspen tree that has fallen atop the cultural poles, the feature is indistinguishable from the photographs taken in 1999. It is possible that the collection of poles represents a cultural pole cache that had never been erected as a wickiup, or, less likely, of a wickiup that had been dismantled and laid onto the ground, however the manner in which the poles are interlocked near their tips and retain a triangular configuration suggests that they had originally stood as a conical wickiup.

It is impossible to ascertain the nature and size of the floor plan, headroom, or entry orientation of the shelter in its current condition. The poles range from 3.1m to 5.9m in length, and from 5cm to 10cm in mid-pole diameter—well within the range of other wickiup poles recorded in RMNP.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, the configuration and nature of the wooden elements

suggests a Native American affiliation, rather than historic Euro-American. The Historical Component form from 1999 suggests that the feature(s) are either "mid-20th Century Euro-American" or "mid-19th Century Native American." Based on the experience of the CWP, the current project suggests that the conical configuration of aspen poles likely represents the remains of a Native American feature, most likely of Ute or Arapaho affiliation.

Evaluation and Management Recommendation

Site 5LR4503 was field recommended as not eligible in regard to eligibility for inclusion on the National Register of Historic Places in 1999. Considering the conclusion by both of the projects that have documented the site that the feature is apparently a Native American wickiup of Protohistoric or early Historic age, the CMP recommends that this site be considered as eligible according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation are recommended, however no further work is proposed by the current project.

5LR4509, Brunswig Wickiup Village

Site 5LR4509, the Brunswig Wickiup Village, was initially recorded by Robert Brunswig and William Rhodes, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the site was described on the Management Data Form as a "lean-to or wickiup site…primarily a historic site, however, a single prehistoric lithic flake was found. The lean-to/wickiup is believed to have a proto-historic origin." However, on the Historical Component Form the entire site description reads: "Six lean-to structures or wickiups. A flake was also found at the site." No other descriptions or details are provided with the exception of a single photograph of what is referred to herein as Feature 1, and a crude sketch map of the local topography showing the locations of the flake and four "trees with suspect lean-to." The site size is listed as 50m by 60m. The flake was collected.

The CWP investigations relocated the site at its previously recorded location. The field crew was able to relocate the aforementioned Feature 1, shown in the 1999 photograph, all four of the "trees with lean-tos" shown on the original sketch map (Features 2, 3, 4, and 6), plus one additional feature at the southwest end of the site (Feature 7). Adjacent to Feature 4, a seventh wooden feature was discovered to be the "historic lean-to structure" recorded by Brunswig as isolated find 5LR4500 several months after his documentation of the other features at the site. Accordingly, this latter feature has now been incorporated into site 5LR4509 as Feature 5.

All of the seven features, and associated sub-features, were photographed, measured, and mapped with the GPS unit. Aboriginal Wooden Feature Component Forms were completed for each. The current project slightly increased the site size to 110m northeast-southwest by 150m northwest-southeast to include all of the wooden features and sub-features, which have been interpreted by the CWP as one wickiup, seven pole caches, and two utility racks.

Site Description

5LR4509 is an open camp consisting of seven aboriginal wooden features and three sub-features, for a total of ten (Figures 6 and A-6). Feature 1 has been interpreted as a partially collapsed wickiup, Features 3B and 3C as utility poles, and the remainder as pole caches. A metal detector was utilized to scan the areas within and surrounding each of the wooden features, with negative results. Other than a single utilized white chert flake several meters to the east of Features 4 and 5, no other artifacts were encountered.

The site is located near the base of the south lateral moraine of the Fall River Glacier, which forms the south side of the broad, open meadow of Horseshoe Park, at an elevation of 8550 feet (Figure A-1). The site is a ponderosa pine forest in the Montane Life Zone and other vegetation consists of aspen, common juniper, Engelmann spruce, golden banner, Indian paintbrush, Rocky Mountain loco weed, mini-flowered phlox, low penstemon, yarrow, Timothy grass, blue grama, and buffalo grass. The colluvial soil consists of light brown sandy silt overlain with up to 4cm of highly organic pine duff. Ground cover, due to the grasses and duff, is more than 95%.

Although the condition of the wooden cultural elements suggests significant antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. The nature of the wooden features themselves strongly suggests a Native American affiliation, likely Ute or Arapaho.

Feature descriptions

Feature 1, atop a hill at the southeastern edge of the site, was originally recorded as a "lean-to wickiup" in 1999. The current project has categorized the structure as a partially collapsed leaner-style wickiup consisting of three standing and one collapsed aspen poles supported by the branches on the southwest side of a dying ponderosa pine tree (Plate 3). The missing poles make it difficult to estimate the size of the floor area, however the notably high interior headroom has been estimated to have been approximately 2.5m. The cultural poles are also notably long, compared to other wickiups recorded by the CMP, and range in length from 6.5 to 7.0m. To the southeast of the support tree and surrounding its base is an area measuring 4.2m north-south by 5.2m east-west that was relatively free of grasses compared to the surrounding ground surface at the time of recordation; possibly indicative of biochemical alteration of the soils within the shelter's floor area as a result of cultural activities having occurred there, however this is purely speculative.

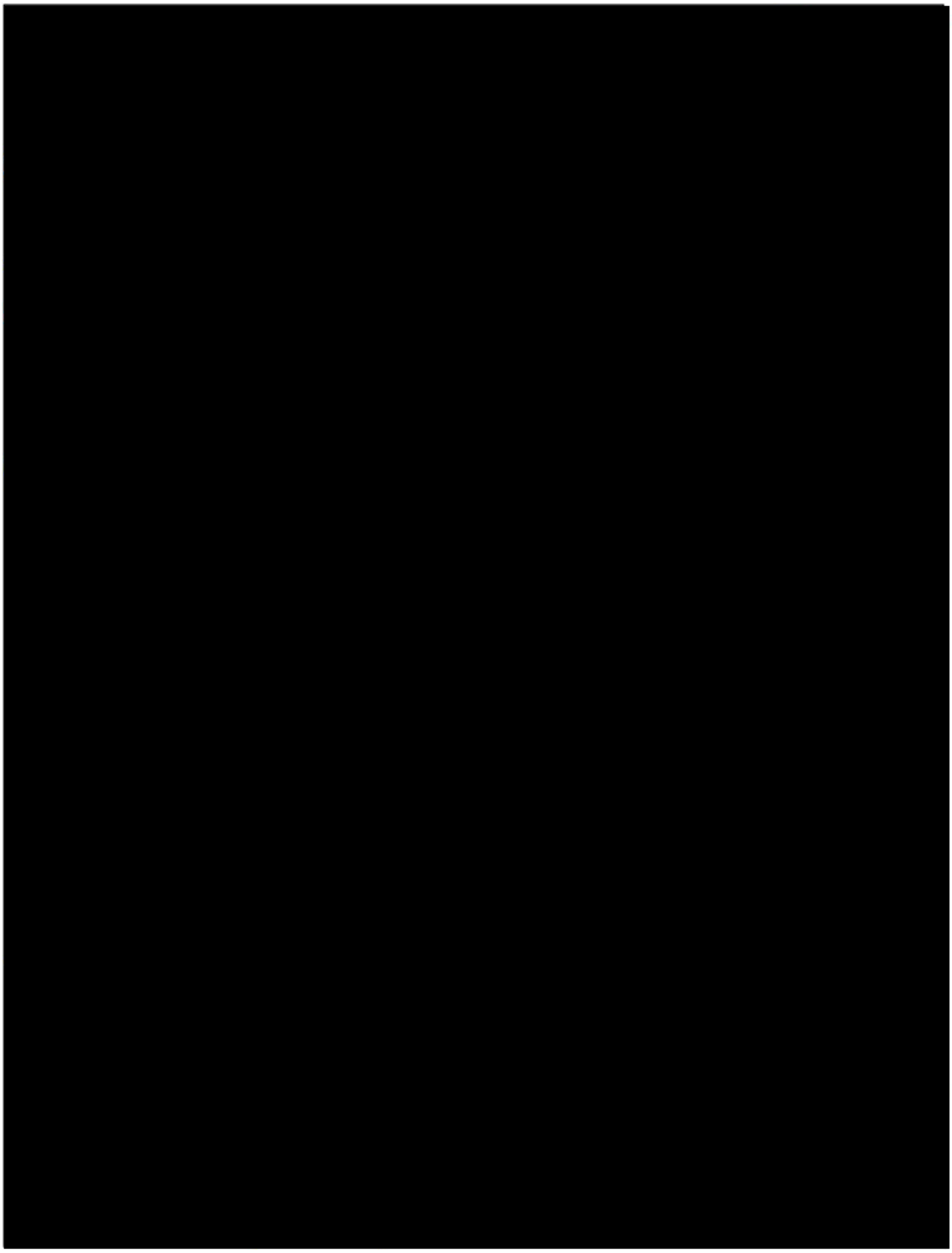


Figure 6. Plan map of 5LR4509, Brunswig Wickiup Village, and 5LR12902

Feature 2, approximately 40m down slope to the north of Feature 1, appears to be one of the "trees with lean-tos" shown on the 1999 sketch map. It consists of a cache of seven 1.4m to 4.9m-long aspen poles resting against the north-northeast side of two ponderosa pine support trees. The reasoning behind the interpretation of the feature as a pole cache rather than a wickiup is based on the fact that the dead standing support trees are un-limbed almost to ground level and there are large exposed roots in what would have been the floor space were it a shelter—both of which would have made the area inconvenient for habitation.

Feature 3, likely one of the "trees with lean-tos" shown on the 1999 sketch map, consists of a cluster of three sub-features that have been interpreted as a pole cache and two sets of utility poles. They are situated 20m to the west of Feature 2. Feature 3A, again likely one of the "trees with lean-tos" shown on the 1999 sketch map consists of a cache of three 2.7m to 5.8m-long aspen poles resting against the west side of a ponderosa pine support tree—two of which are supported by notably insubstantial tree limbs. Feature 3B, to the northwest of Feature 3A, consists of four widely spaced 4.0m to 5.5m-long standing aspen poles resting into various limbs of a dead standing Engelmann spruce support tree. They have been recorded as utility poles as they are not arranged in any manner to suggest a wickiup, and are not gathered or clustered together as is typical of cultural pole caches. One of the pole ends has been partially burned. Feature 3C, to the east of Feature 3B, consists of a single 5.4m-long standing aspen pole resting against the southwest side of a live ponderosa pine support tree. It has been recorded as a utility pole. Four or five other long timbers rest on the ground surface to the north and south of the standing pole, which possibly represent additional, collapsed, utility poles.

Feature 4, approximately 40m down slope to the north-northwest of Feature 3, also appears to be one of the "trees with lean-tos" shown on the 1999 sketch map. It consists of a cache of nine 2.1m to 7.8m-long aspen poles (Plate 4). Two of the poles are standing and resting against the west side of a ponderosa pine support tree, and the remaining seven are collapsed on the ground. The reasoning behind the interpretation of the feature as a pole cache rather than a wickiup is based on the fact that one of the standing poles has been erected close to the trunk of the support tree—typical of many pole caches, but incongruous as a framework element for supporting the cover of a conical shelter.

Feature 5, immediately to the northwest of Feature 4, is interpreted as two pole caches. These poles were originally recorded as separate cultural resource 5LR4500 by Brunswig in 1999, but have been incorporated into site 5LR4509 by the current project. Feature 5A consists of two standing poles, placed closely together, unlike a shelter framework (Plate 4). These aspen poles measure 3.9m and 7.7m in length and lean against the west side of a live ponderosa pine support tree. Feature 5B, 2.5m to the northwest of Feature 5A, consists of eight collapsed aspen poles, 2.3m to 7.2m in length, resting parallel to each other on the ground surface beneath the low boughs of a live Engelmann spruce canopy tree, where they were apparently intentionally placed. It is possible that the eight poles of Feature 5B were once standing with those of Feature 5A as a wickiup frame prior to having been cached beneath the canopy tree.

Feature 6, relatively isolated from the rest of the wooden features at the west edge of the site, and approximately 90m to the northwest of Feature 1, appears to be the last of the "trees with lean-tos" shown on the 1999 sketch map. It consists of a "classic" cache of seven 2.7m to 6.2m-long aspen poles resting against the west-southwest side of an Engelmann spruce. The poles are bunched together and leaned close against the trunk of the support tree (Plate 4).

Feature 7, also isolated from the other features at the northwest edge of the site, is approximately 40m to the north of Feature 6, is another pole cache consisting of seven standing and one collapsed aspen poles resting against the southwest side of an Engelmann spruce. The poles range in length from 3.2m to 6.6m and are arranged close together on one side of the support tree and situated relatively close to the tree trunk.

Evaluation and Management Recommendation

Both sites 5LR4500 and 5LR4509 were field recommended as need data in regard to eligibility for inclusion on the National Register of Historic Places in 1999. Considering the conclusion by both of the projects that have documented the sites that the features are apparently of Protohistoric or early Historic age and of Native American affiliation, the CMP recommends that this site be considered as eligible according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation is recommended, however no further work is proposed by the current project.

5LR4511

Site 5LR4511 was initially recorded by Robert Brunswig and Melissa Yocum, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the sole feature at the site was described as a collapsed wickiup of approximately 30 aspen poles, of Protohistoric Ute affiliation. The site was field evaluated and is currently listed on the Compass database at OAHP as need data regarding eligibility to the NRHP.

The CWP investigations relocated the site, 67m northwest of its previously recorded location. The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The current project increased the site size from its original dimensions of 2m x 3m to 20m in diameter for the purpose of creating a buffer zone around the wooden feature. As no identifier was given to the wickiup by the previous recordation, the CWP has identified it as "Feature 1".

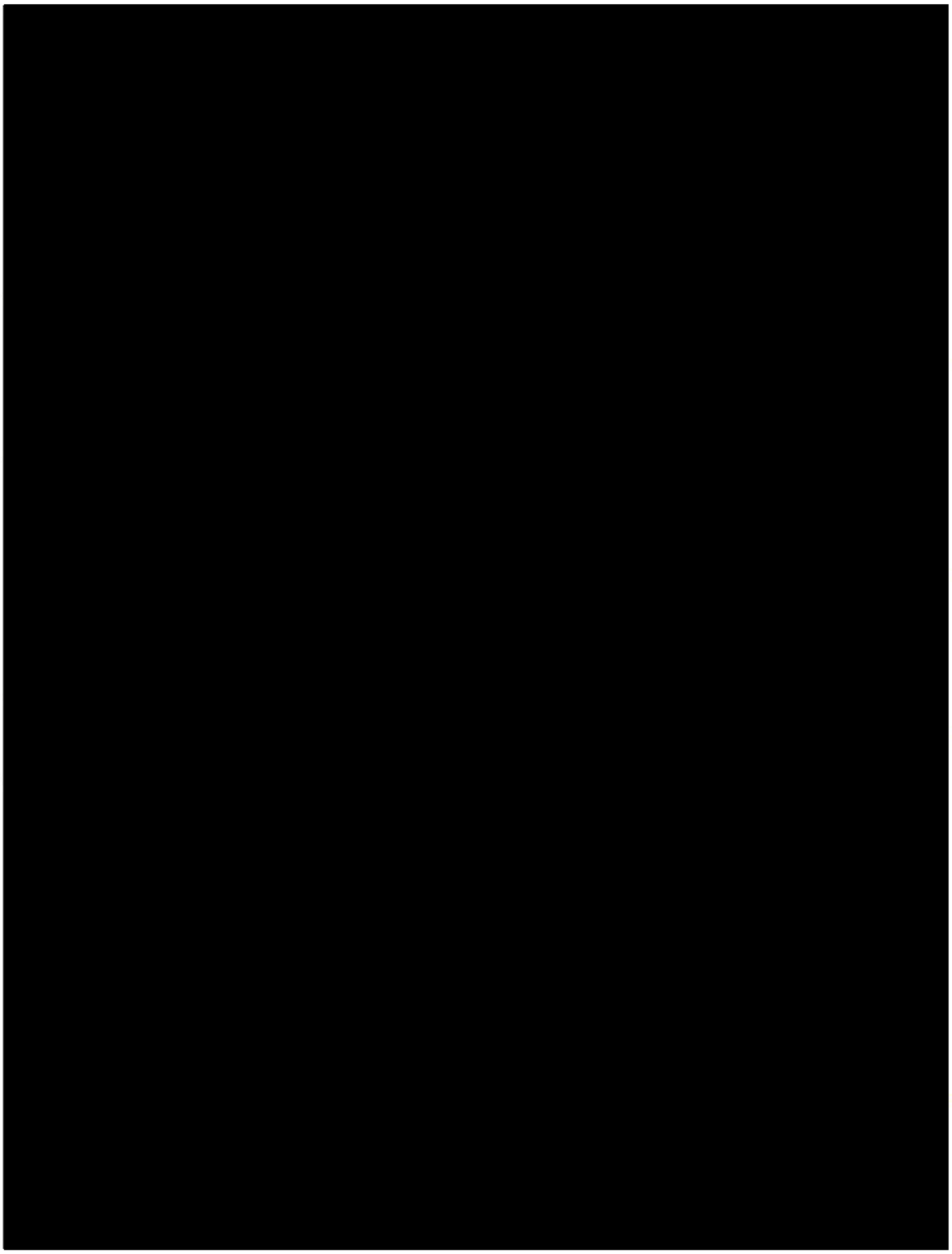


Figure 7. Plan map of 5LR4511

Site Description

5LR4511 consists of a single collapsed wickiup, Feature 1. The 35 aspen poles have collapsed into a triangular, or conical, configuration on the ground surface. No associated artifacts were found on the site either during previous investigations or by the current project. The site is located on the south lateral moraine of the Fall River Glacier overlooking Little Horseshoe Park to the southeast, at an elevation of 8700 feet (Figures 7, A-1, and A-7). The site is in the Montane Life Zone and surrounding vegetation consists of lodgepole pine trees, shrubs, and grasses. The colluvial soil consists of shallow, dark brown, rocky and boulder-strewn sandy loam overlain with up to 5cm of pine duff. Ground visibility is virtually 0%, due to the duff layer. A metal detector was utilized to scan the area within and surrounding Feature 1 with negative results.

Feature description

Feature 1 is a collapsed, freestanding style wickiup consisting of a concentration of 35 aspen poles resting on the ground surface with their tips facing to the east and northeast and the butts to the west and southwest. It has retained a triangular configuration denoting the shelter's original conical nature as a standing wickiup (Plate 5).

It is impossible to ascertain the nature and size of the floor plan, headroom, or entry orientation of the shelter in its current condition. The poles range from 1.7m to 3.1m in length, and from 2.5cm to 6cm in mid-pole diameter—somewhat small when compared with many other wickiup poles recorded in RMNP and at other high elevations in Colorado in general.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, the configuration and nature of the wooden elements indicates a Native American affiliation, rather than historic Euro-American. The Historical Component form from 1999 states that the feature is associated with a Protohistoric Ute occupation. The current project concurs with the determination of Native American construction, but suggests that it also could be of Arapaho affiliation.

Evaluation and Management Recommendation

Site 5LR4511 was field recommended as need data in regard to eligibility for inclusion on the National Register of Historic Places in 1999. Considering the conclusion by both of the projects that have documented the site that the feature is apparently a Native American wickiup of Protohistoric (or early Historic) age, the CMP recommends that this site be considered as eligible according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a

type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation are recommended, as are test excavations.

5LR4513

Site 5LR4513 was initially recorded by Robert Brunswig and Melissa Yocum, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the sole feature at the site was described as a collapsed wickiup consisting of "approximately six 4 meter aspen logs formed the super structure. Approximately forty 2 meter and 1.5 meter aspen logs are collapsed on the ground and leaning against the main supports." The site was field evaluated as need data regarding its eligibility for inclusion on the NRHP.

The CWP investigations relocated the site, 52m north of its previously recorded location. The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The current project increased the site size from its original dimensions of 1m in diameter to 20m in diameter for the purpose of creating a buffer zone around the wooden feature. As no identifier was given to the wickiup by the previous recordation, the CWP has identified it as "Feature 1".

Site Description

5LR4513 consists of what appears to be a single partially collapsed wickiup, Feature 1. No associated artifacts were found on the site either during previous investigations or by the current project. The site is located on the north slope of the south lateral moraine of the Fall River Glacier between Horseshoe Park and Little Horseshoe Park, at an elevation of 8640 feet (Figures 8, A-1, and A-8). The site is in the Montane Life Zone and surrounding vegetation consists of lodgepole pine (both seedlings and mature standing dead), Douglas fir, aspen (mature and seedlings), yarrow, Indian paintbrush, golden banner, common juniper, and grasses. The colluvial soil consists of gravelly, dark brown sandy silt overlain with several centimeters of pine duff. Ground visibility is approximately 20%, due to the grass cover and duff layer. A metal detector was utilized to scan the area within and surrounding Feature 1 with negative results.

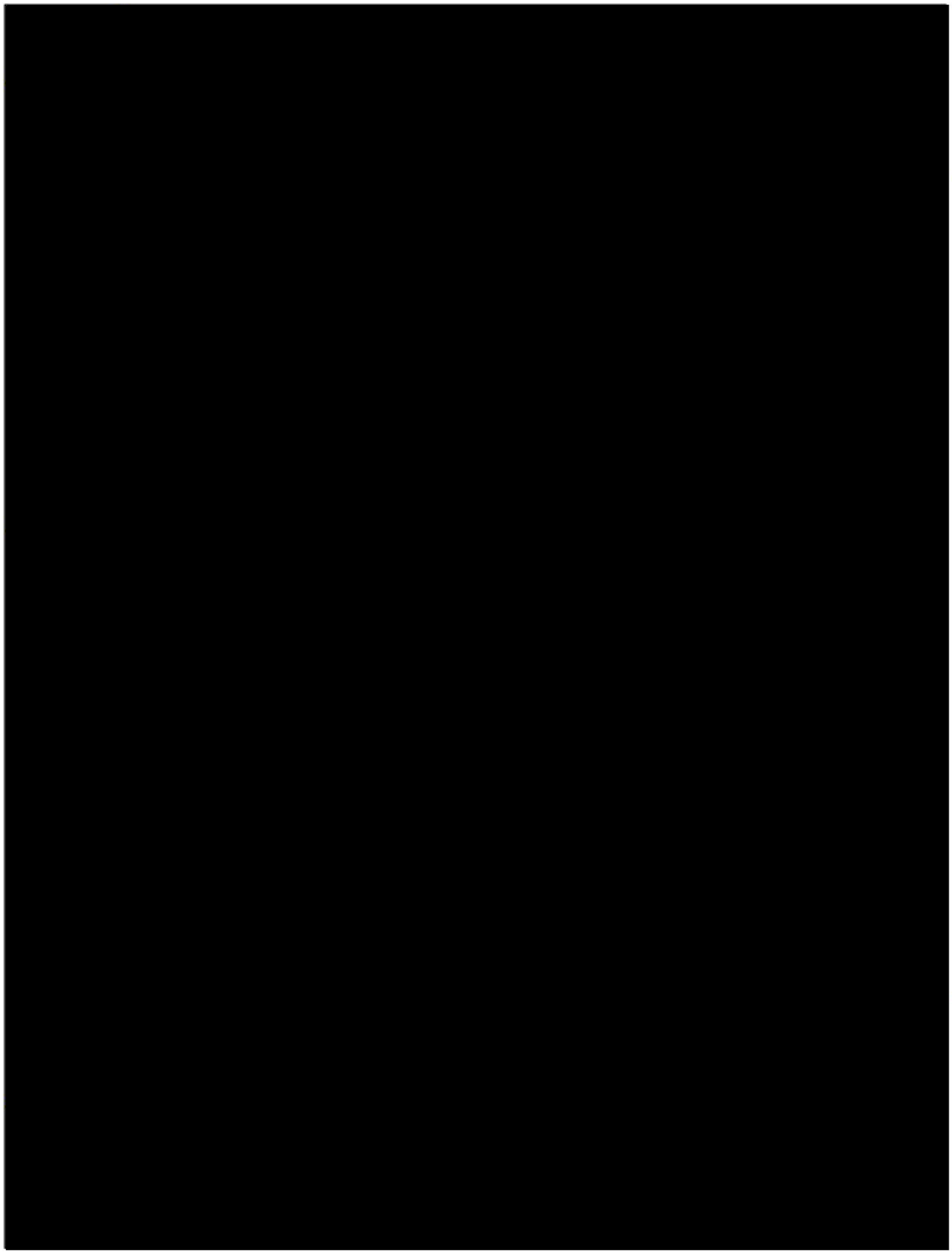


Figure 8. Plan map of 5LR4513 and 5LR4514

Feature description

Feature 1, is a partially collapsed, apparently freestanding style wickiup, consisting of 34 aspen poles resting on the ground surface with their tips facing to the south and the butts to the north. An additional 12 poles have fallen against two aspen trees where they remain partially suspended by the live trunks, contacting the supporting trunks at heights of up to 70cm above the ground surface. It is interesting to note that a majority of the canopy trees sheltering wickiups in RMNP are evergreens, rather than aspen, as in this case.

The feature is significantly more collapsed than what is shown in the photographs taken in 1999. It is impossible to ascertain the nature and size of the floor plan, headroom, or entry orientation of the shelter in its current condition. The poles range from 3.1m to 4.5m in length, and from 2cm to 12cm in mid-pole diameter.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. The Historical Component form from 1999 suggests that the feature is of "Protohistoric/historic Native American Ute" affiliation. Based on the experience of the CWP, the current project concurs that the conical configuration of aspen poles likely represents the remains of a Native American feature, most likely of Ute or Arapaho construction.

Evaluation and Management Recommendation

Site 5LR4513 was field recommended as need data in regard to eligibility for inclusion on the National Register of Historic Places in 1999. Considering the conclusion by both of the projects that have documented the site that the feature is apparently a Native American wickiup of Protohistoric or early Historic age, the CMP recommends that this site be considered as eligible according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation is recommended, however no further work is proposed by the current project.

5LR4514

Site 5LR4514 was initially recorded as an isolated find (IF) by Robert Brunswig and Melissa Yocum, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the feature was described as a "lean-to structure" consisting of "approximately twenty 3 meter long aspen logs leaned against a large…boulder" dating from the "mid-20th Century".

On the OAHP Isolated Find Record the feature is attributed to a "Protohistoric Native American" occupation, however, on the attached Historical Archaeology Component Form, the ethnic affiliation of the occupants is listed as "Euroamerican." No evaluation was provided regarding its eligibility for inclusion on the NRHP as it was recorded as an isolated find. On the Compass database at OAHP the resource is listed as a historic habitation of European-American affiliation and confirms the non-eligible status.

The CWP investigations relocated the resource 32m east-northeast of its previously recorded location. The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. No dimensions are provided for the resource on the IF form, however, the current project has reevaluated the feature as a site with a diameter of 20m, including a buffer zone. As no identifier was given to the lean-to by the previous recordation, the CWP has identified it as "Feature 1."

Site Description

The wooden feature at 5LR4514, Feature 1, has completely collapsed, and the poles have become scattered since the 1999 photograph was taken. Despite the inability to distinguish the feature itself—due to its degeneration—the CWP crew was able to conclusively match the boulder, surrounding trees, and near-by cobbles with the 1999 photo (Plate 6). The support rock is the only boulder of its size within a 30m or more radius of the site. No associated artifacts were found on the site either during previous investigations or by the current project. The site is located on a bench which is on the north slope of the south lateral moraine of the Fall River Glacier between Horseshoe Park and Little Horseshoe Park, at an elevation of 8650 feet (Figures 8, A-1, and A-8). The site is in the Montane Life Zone and surrounding vegetation consists of lodgepole pine (both seedlings and mature), aspen, Douglas fir, common juniper, shrubs, and grasses. The colluvial soil—of less than 30cm in depth—consists of gravelly, rocky, dark brown sandy silt overlain with several centimeters of pine duff. Ground visibility is approximately 10% to 20%, due to the shrub and grass cover, and the duff layer. A metal detector was utilized to scan the area within and surrounding Feature 1 with negative results.

Feature description

Feature 1, is a completely collapsed, boulder lean-to shelter, consisting of 23 wooden timbers scattered on the ground surface to the north and northwest of an isolated granitic boulder (Plate 6). Twenty-one of the cultural poles can be identified as aspen, and the remaining two have been categorized as undetermined evergreen. The feature was still standing in the photograph taken in 1999, showing all of the poles leaned side-by-side against the upper edge of the north side of the boulder. Based on this photograph, and the measurements of the boulder taken by the current project, it is possible to estimate that the headroom within the shelter had been approximately 90cm, and that the roughly rectangular floor measured about 2.5m along the face of the boulder and 1.0m in width—for an approximate floor area of 2.5 square meters. It appears likely that the open southwest end of the lean-to served as the

entryway, however, the opposite end possibly had been open as well. The poles range from 1.5m to 3.5m in length, and from 3cm to 8cm in mid-pole diameter.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. As noted above, there is a discrepancy regarding the cultural affiliation of the feature as perceived by the original recorders. Based on the experience of the CWP, although these researchers tend to concur with the determination on the OAHP database that this feature likely represents the remains of an expedient Euro-American shelter—most likely dating to the early to mid-20th Century—several one-sided lean-tos have been recorded on Protohistoric Ute wickiup villages elsewhere in the state and a Native American cultural affiliation should not be dismissed.

Evaluation and Management Recommendation

Site 5LR4514 was field recommended as not eligible for inclusion on the National Register of Historic Places as an isolated find in 1999. The current project recommends that this resource be reinterpreted as an archaeological site, similar to many of the other isolated expedient wooden features in Rocky Mountain National Park and elsewhere. However, because of its current state of nearly complete disintegration, and the lack of results from the metal detecting and surface reconnaissance activities, the CWP concurs with the evaluation of the site as not eligible. Avoidance is recommended, and no further work is proposed by the current project.

5LR4531

Site 5LR4531 was initially recorded by Robert Brunswig and Kathryn Plimpton, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the site was described as a collapsed lean-to against the side of a large boulder with an associated light lithic scatter of late 19th or early 20th Century, Native and Euro-American affiliation. No other descriptions or details are provided with the exception of a statement that no historic artifacts were found, a single photograph of what is referred to herein as Feature 1, and a crude sketch map of the local topography. The Compass web site at OAHP mentions that three flakes of Kremmling chert were recorded at the site. The site size is listed as 5m by 10m.

The CWP investigations relocated the site on the same small outcrop or "hill" at the base of a moraine as described by the previous recordation, however the UTM coordinates have been refined to a point 83m to the north-northwest of those listed on the Management Data Form. The field crew was able to relocate the site by matching existing boulders and trees with those shown in the 1999 photograph, however since then, the partially collapsed lean-to in the photograph has been completely dismantled and the wooden elements used to create what

appears to be a windbreak (Feature 2) between two trees immediately to the southeast of its original location. Feature 2 is not present in the 1999 photo. Additionally, the current project found two other wooden features on the site which have been assigned the identifiers Features 3 and 4.

As Feature 1 is no longer in existence and Feature 2 is obviously of modern construction, only Features 3 and 4, another newly-discovered windbreak and an apparent firewood pile, were considered of interest to the CWP. These two features were photographed, measured, and mapped with the GPS unit, and Aboriginal Wooden Feature Component Forms were completed for each. The current project increased the site size to 60m north-south by 70m east-west to include the newly recorded wooden features as well as the mano and possible rubbing stone that were found on the site surface.

Site Description

5LR4531 consists of a concentration of three (originally four) expedient wooden features and two ground stone artifacts. Feature 1, a boulder lean-to built against the south side of a large granite boulder, was dismantled at some time between 1999 and 2010. All that remains at the Feature 1 location at present is a stone semi-circle approximately 2m in diameter extending off of the south face of the boulder and scattered small sticks and duff (Figure 10).

The timbers from Feature 1 were reconfigured—presumably by the same individual(s) who dismantled it—into what appears to be a windbreak or protective timber wall immediately to the south-east of the original location of Feature 1, that has been given the moniker Feature 2 (Plate 7). Two additional wooden features, of undetermined age, were recorded to the north of the Feature 1/Feature 2 locality (Figures 9, 10, and A-9). A metal detector was utilized to scan the entire site with positive results only in the area within and immediately in front, to the south, of the original Feature 1 location where a 1m diameter concentration of ash was noted. From within the ash concentration, three small, modern, brass Phillips head wood screws and two metal dental bridges were recovered. At this point the field crew realized that the ash stain was the result of someone depositing the ashes of a modern human cremation at the location. It is hypothesized that Feature 1 was dismantled by these same individuals, and that Feature 2 was constructed as a “sheltering wall” or “containment” for the final resting place of the deceased.

The only other artifacts found on the surface of the site consist of an oval, unifacially-ground granitic mano that measures approximately 11.0cm x 9.5cm x 5.5cm and a possibly ground granite pebble rubbing or polishing stone. No lithic flakes were found. Two dendrochronological samples (Field Specimens 9 and 10) were secured from separate poles within Feature 2—that had presumably originally been elements of the dismantled Feature 1—however, these remain unanalyzed.

The site is situated on a low hill created by an outcrop of granite bedrock and large boulders that juts out to the north from the base of the South Lateral Moraine of the Big Thompson Glacier (Figure A-2). The site location provides a panoramic view to the north

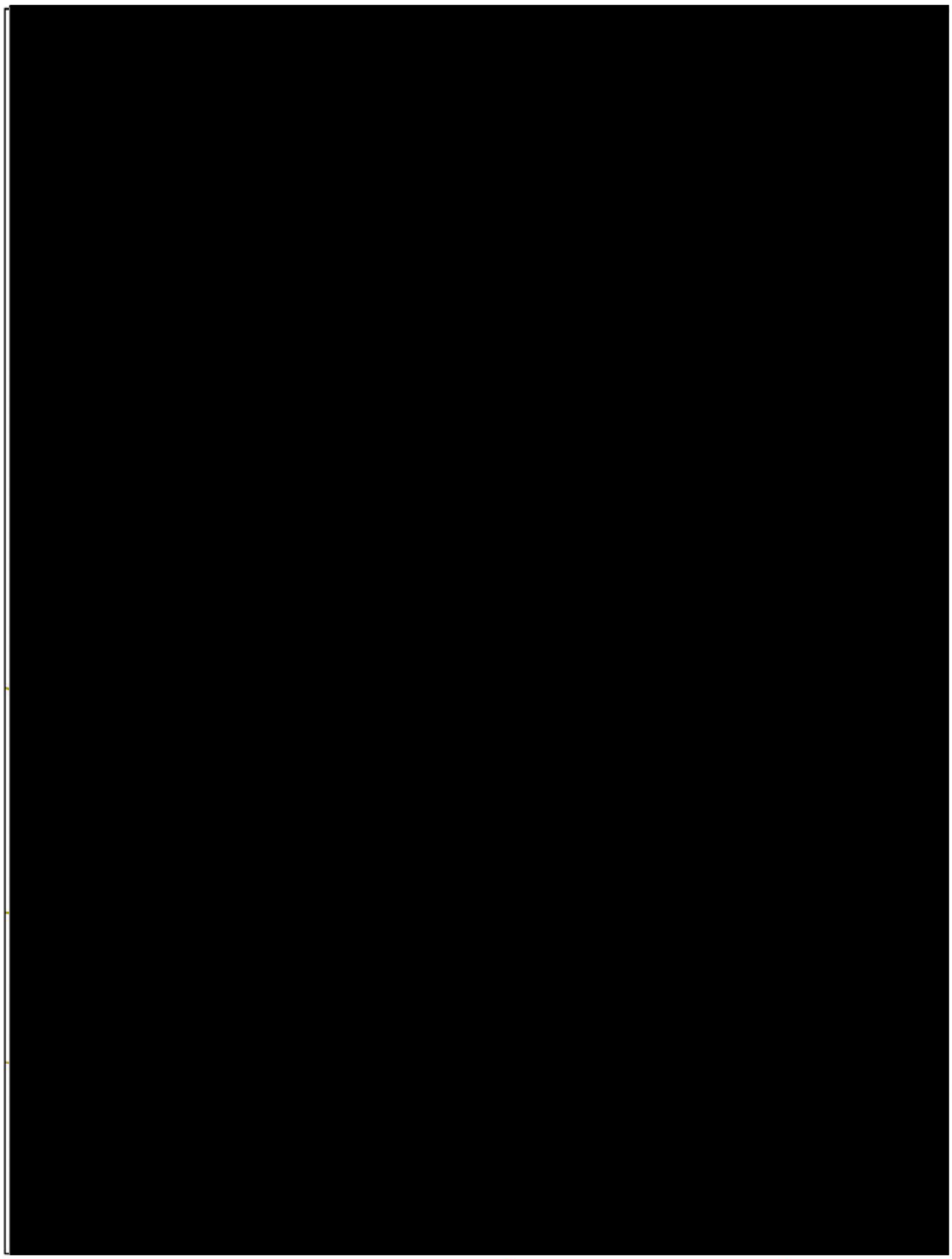


Figure 9. Plan map of 5LR4531

across the broad, open meadow of Moraine Park—populated by hundreds of elk on the day of the recording. The site is at an elevation of 8080 feet. The site is in a ponderosa pine and Douglas fir forest in the Montane Life Zone. The only other vegetation on the site is common juniper. The residual moraine deposits consist of very dark gray rocky (but not gravelly) sandy loam overlain with up to 6cm of highly organic pine duff. Ground visibility, due to the duff, is approximately 5%.

Both the non-diagnostic nature of the features themselves, and the differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret the age or cultural affiliation of any of the wooden features at 5LR4531, other than Feature 2, which is obviously of modern construction.

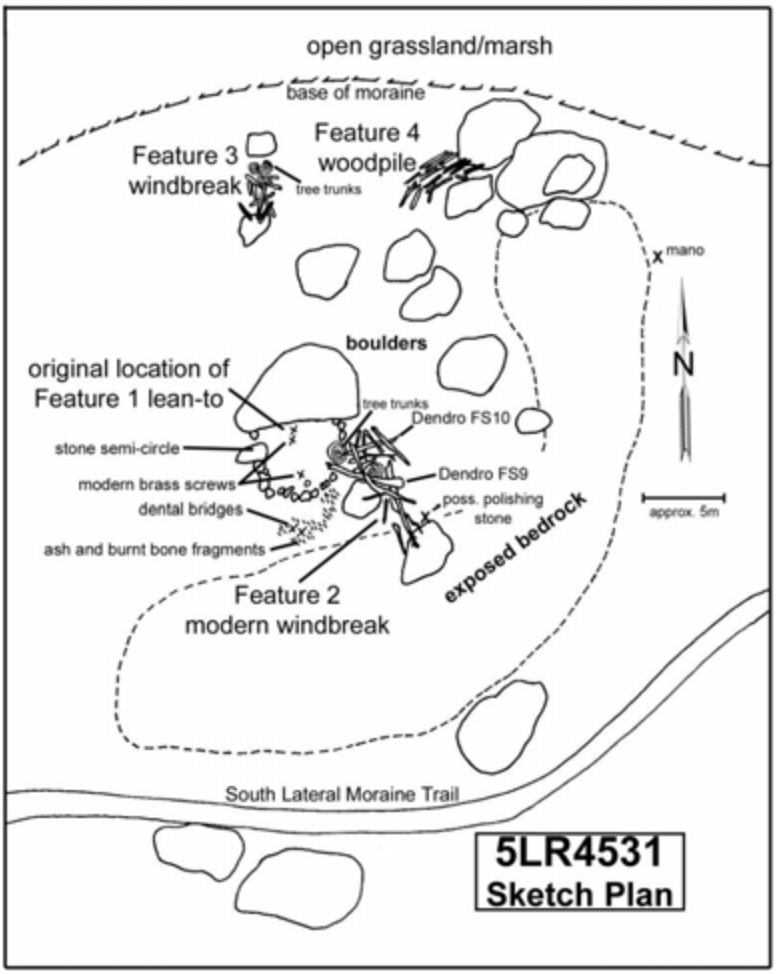


Figure 10. Sketch plan map of 5LR4531

Feature descriptions

Feature 3 is a partially collapsed windbreak or timber wall. Six of the 19 feature poles, that range from 0.7 to 2.5m in length, can still be considered as actual "standing" or leaning

elements; the remainder having fallen atop of, and now being supported by, each other. Fifteen of the wooden elements are aspen and the remaining four are of undetermined evergreen. The obviously culturally-placed poles would serve well as a windbreak for a camping or picnic spot for the small open area to the east of the feature, similar to the modern Feature 2 windbreak.

Feature 4 is a collection of culturally-gathered timbers intentionally lain between several large boulders at the north end of the site, with no evidence of having been a part of a formal structure of any kind. All 18 of the timbers appear to be aspen and, at 0.8 to 1.9m in length, are too short to be considered cached wickiup poles, and therefore the feature has been categorized as a firewood cache. No ax-cuts are visible on the wooden elements of either feature.

Although the condition of the wooden structural elements in both features suggests significant antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. The CWP interprets the feature as being of possible late 19th to early 20th Century Native American (Ute or Arapaho), or mid-20th Century Euro-American construction. A modern affiliation for the feature cannot be ruled out, however.

Evaluation and Management Recommendation

Site 5LR4531 was recommended as not eligible to the National Register of Historic Places in 1999, and, based on the high amount of disturbance to the site and the inability to accurately date the newly discovered wooden features, the CWP concurs with this evaluation. Avoidance is recommended, and no further work is proposed by the current project.

5LR4548

Site 5LR4548 was initially recorded by Robert Brunswig, William Rhodes, and Kathryn Plimpton, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time they named the site the Hidden Valley Wickiups and described it as a "protohistoric to historic Native American wickiup, partly fallen down." No associated artifacts were found. Although this is the only description supplied on the site forms, the site name implies multiple features, an attached sketch plan map shows *two* features, named "wickiup #2" and "lean-to", and unlabeled photographs are supplied showing *both* of this project's Feature 1 and Feature 2. UNC's site map shows the "lean-to" closer to the Fern Lake Trail than the "wickiup," however, in reality, the reverse is true: obvious wickiup (Feature 2) is 20m south (downslope) from the lean-to style brush animal trap (Feature 1). The site was originally field evaluated as need data.

The CWP investigations relocated the site, approximately 40m to the west of the previously recorded UTM location, and GPS-mapped, photographed, and measured the features. Aboriginal Wooden Feature Component Forms were completed. The current project increased

the site size from its original dimensions of 3m in diameter to 45m north-south by 30m east-west in order to include both wooden features and a buffer zone.

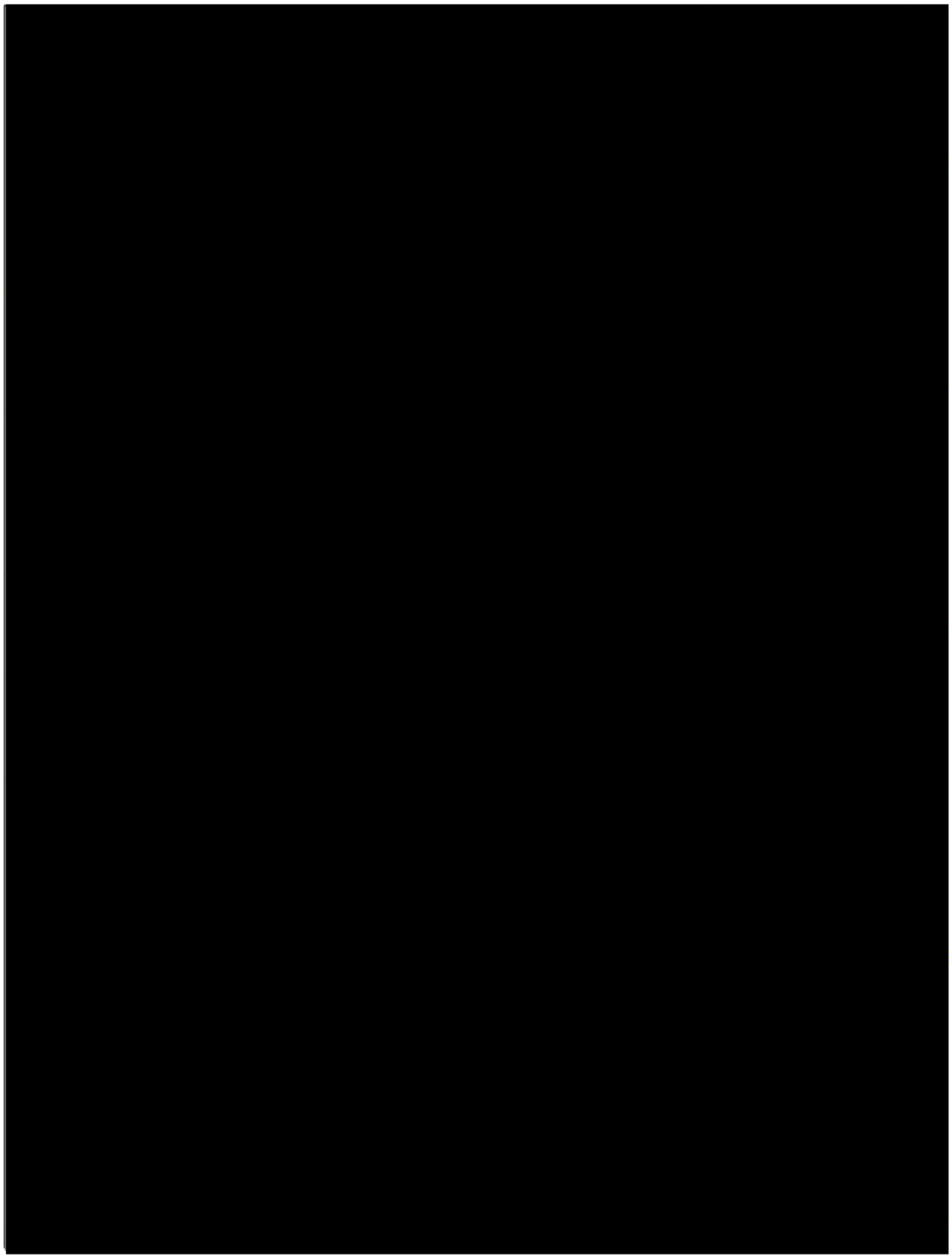


Figure 11. Plan map of 5LR4548

Site Description

5LR4548 consists of a two-walled, lean-to structure, Feature 1—an animal entrapment feature or "cubby set," and a partially collapsed wickiup, Feature 2. No associated artifacts were found on the site either during the previous investigations or by the current project. The site is located near the south-facing base of the North Lateral Moraine of the Big Thompson Glacier—the talus slope on the north side of the Big Thompson River canyon. The site is at an elevation of 8250 feet (Figures 11, A-2, and A-10). The site is in the Montane Life Zone and vegetation consists of Rocky Mountain juniper, common juniper, ponderosa pine, Douglas fir, Engelmann spruce, wild rose, creeping holly grape, wild geranium, and sparse grass. The colluvial soil consists of brown highly organic loam overlain with several centimeters of pine duff. Ground cover, due to the duff layer, is complete.

A metal detector was utilized to scan the area within and surrounding both wooden features, with negative results. Two dendrochronological samples (FS17 and FS18) were collected. FS17 was taken from a Feature 1 pole that showed evidence of having been harvested by a saw while FS18 is from one of the saw-cut limb stubs on the lower portion of the Rocky Mountain juniper canopy tree that is situated on the interior of the apex of the two Feature 1 walls. These samples have not been submitted for analysis.

Feature description

Feature 1 is a partially collapsed animal entrapment structure or "cubby set." The two "walls" of the feature consist of horizontally laid "rails" that meet at the east to form a V-shaped funnel. These poles, or rails, are alternately stacked atop each other at the east end, in the manner of a "snake-style" or "bucket rider" fence. These walls diverge to create a 90cm wide opening to the west. Of the 36 timbers that make up the walls, 30 are aspen and the remainder are of undetermined conifer. Twenty-three can be considered as "standing" elements—still stacked atop each other. The remainder have collapsed atop each other at the western end of the walls (Plate 8). The feature measures 2.0m east-west by 1.2m north-south at the opening, and the high portions of the side walls are 90cm in height.

The apparent purpose of the walls was to direct animals into the area between the walls to a baited trap (leg trap or possible snare). The bait, and possibly a snare, could have been suspended from the limbs of the juniper tree that was obviously intentionally incorporated into the interior of the apex of the trap walls at the east end. A series of eight or more small twigs have been laid horizontally across the top of the side walls to form a section of "roof" near the west end of the entrapment, again presumably to aid in directing game animals to a position where they will be forced to step into a leg trap or snare. It is unknown what specie(s) of animal were being targeted—coyotes, bobcats, and fox are possible candidates. No evidence of game traps, or any other artifacts could be found on the site surface or by metal detection.

Compared with the 1999 photograph of Feature 1, the wall timbers are slightly more collapsed and several of the small "roof" twigs are now missing or have been scattered.

Although the condition of the wooden structural elements suggests significant antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. Although V-shaped brush and stone animal traps are not unknown on Native American sites, the design of the feature and the sawn elements and tree branches indicate a historic or modern age, and suggest a Euro-American affiliation. Interesting, however, nearby Feature 2 highly suggests a Native affiliation.

Feature 2, 20m downslope to the south of Feature 1, is a partially collapsed, apparently leaner style wickiup, consisting of approximately 52 aspen poles (Plate 8). Nine of the poles are leaning against a standing fir tree and the remainder lie scattered on the ground surface. It is possible that the standing poles have merely fallen into their current position against the "support" tree from an originally freestanding wickiup, however it appears more likely that this was a leaner. The highly decomposed poles range in length from 2.6cm to 3.6m with the exception of one that is 5.0m long—possibly representing a utility pole rather than an element of the shelter framework. The poles range from 3cm to 10cm in diameter at mid-pole. Again, it is interesting to note that, although a majority of the wickiup poles in Rocky Mountain National Park are of aspen, most of the support and canopy trees sheltering the wickiups in are evergreens, as in the case of Feature 2.

The feature is significantly more collapsed than what is shown in the photographs taken in 1999. It is impossible to ascertain the nature and size of the floor plan, headroom, or entry orientation of the shelter in its current condition. Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. What remain of the standing poles suggest a conical configuration of aspen poles which highly suggest the remains of a Native American feature, most likely of Ute or Arapaho construction, dating to the late 19th or early 20th Century. This analysis casts a certain amount of uncertainty on the interpretation of Feature 1 as a Euro-American construction.

Evaluation and Management Recommendation

Site 5LR4548 was field recommended as need data in regard to eligibility for inclusion on the National Register of Historic Places in 1999. Considering the conclusion that at least one, and possibly both of the features are of Native American affiliation, the CMP recommends that this site be considered as eligible according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation are recommended, as is the processing of one or more of the collected tree ring samples.

5LR6962

Site 5LR6962 was initially recorded by Robert Brunswig and Kathryn Plimpton, archaeologists from the University of Northern Colorado (UNC), in 1999 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). At that time the site was described as "a collapsed pole wickiup and associated small stone (tipi) ring" as a historic Native American component, and a Euro-American component consisting of "a simple rock-lined hearth." They concede that the hearth might also be originally affiliated with the Native occupation of the site that was "simply re-used by a later Euro American visitor." A photograph of the "wickiup"—what the CWP had named Feature 1—is attached, however, no other descriptions, measurements, details, or maps are provided. The site was field evaluated as need data regarding inclusion on the NRHP.

The CWP investigations relocated the site, 35m northeast of its previously recorded location, however only the "wickiup" (which has been reevaluated as a pole cache) and the hearth could be found at the site; the tipi ring was nowhere in evidence. Additionally, the current project recorded a culturally modified tree on the site as Feature 2.

The CWP photographed, measured, and GPS-mapped the features, and Aboriginal Wooden Feature Component Forms were completed. The site size has been enlarged from the original 10m diameter to 60m north-south by 30m east-west in order to include the newly discovered Feature 2. As no identifier was given to the "wickiup" by the previous recordation, the CWP has identified it as "Feature 1".

Site Description

5LR6962 consists of a standing cultural pole cache, Feature 1; a stone fire ring; and a culturally modified ponderosa pine tree, Feature 2. No associated artifacts were found on the site either during the previous investigations or by the current project. The site is located on the crest of a ridge and at the upper, northeast, end of an open meadow at an elevation of 8460 feet (Figures 12, A-2, and A-11). The aspect is to the northwest, looking into Hallowell Park. The site is in the Montane Life Zone and surrounding vegetation consists of a ponderosa and lodgepole pine forest with fir, common juniper, sage, western wall flower, pussytoes, dandelion, mountain hairbell, stone crop, monks hood, golden banner, northern beadstraw, sulfur flower, and fairly dense grasses. The residual soil consists of gravelly, gray sandy loam with exposed granitic boulders up to a meter in diameter. Ground visibility is limited to approximately 20% due to vegetative and duff cover. A metal detector was utilized to scan the entire site area with negative results.

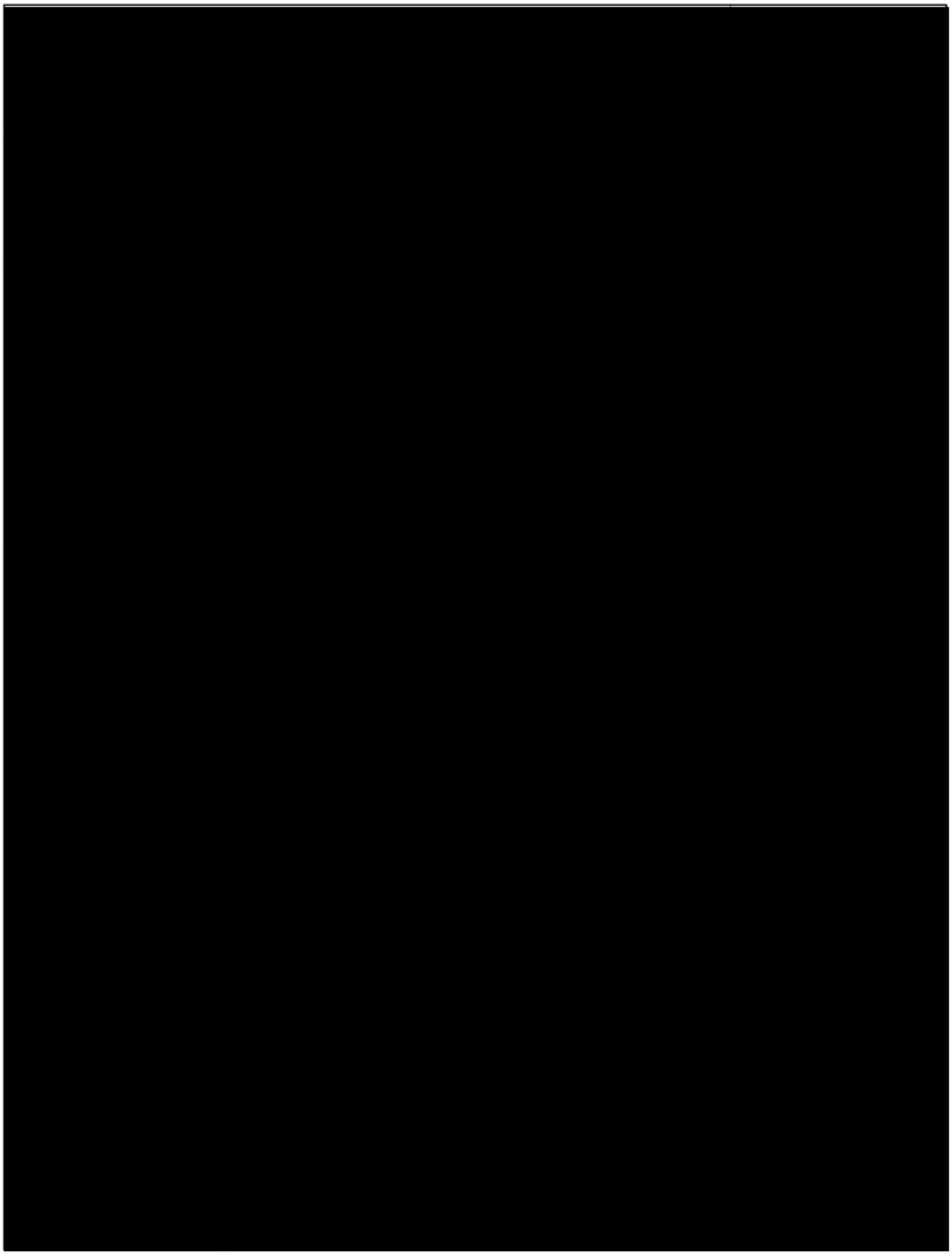


Figure 12. Plan map of 5LR6962

Feature description

Feature 1 consists of a "classic" cache of 39 aspen poles that range from 1.4m to 4.6m in length (Plate 9). Seven of the poles are standing and resting against two ponderosa pine support trees (six on one and 1 on the other), and the remaining 32 are collapsed onto the ground surface. The reasoning behind the interpretation of the feature as a pole cache rather than a wickiup, as originally recorded, is based on the fact that the standing poles have been erected in a bundle, close to each other and close against the trunk of the support tree. The poles range in length from 1.4m to 4.6m and from 3cm to 8cm in mid-pole diameter.

At a distance of 3.1m to the south-southwest of Feature 1 is a circular rock-ring fire hearth that measures 1.3m in diameter. It is constructed of 11 granitic cobbles that range from 9cm to 50cm in diameter. A trowel test produced dense charcoal to a depth of 8cm below the present ground surface, which, as noted on the UNC site form, suggests a recent construction, or at least recent use of, the hearth. Its presence near Feature 1, if indeed the hearth is associated with the apparently Native American pole cache, possibly suggests that these poles once stood as a wickiup prior to being cached against a tree.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. The configuration and nature of the aspen elements suggests a Protohistoric to early Historic Native American affiliation, most likely of Ute or Arapaho affiliation.

Feature 2 is a culturally modified ponderosa pine tree (Plate 9). The modification consists of a metal ax-cut wedge removed from the tree trunk rather than the more typical cultural bark peel known from Protohistoric Native American sites. Although the scar is not unlike a trail blaze, there is no trail nearby, and it is in an unlikely location to suggest that this had ever been the case. The scar is situated on the southeast side of a mature, nearly dead, tree 36m to the south-southeast of Feature 1. It is at a height of 51cm to 72cm above the ground surface and measures 21cm in height and 27cm in width. The depth of the scar is 13cm. Metal ax scars are visible on both the upper and lower exposures of the open wedge. A large crack exists in the trunk of the tree on the west side, and the hollow interior of the tree is visible within the open wedge. Although some needles remain on the upper limbs of the ponderosa, it is obviously in the process of dying, and is in imminent danger of collapse.

Although atypical as a Native American bark peel, its apparent association with Feature 1 suggests that it is also of Native affiliation.

Evaluation and Management Recommendation

Site 5LR6962 was field recommended as need data in regard to eligibility for inclusion on the National Register of Historic Places in 1999. Considering the conclusion by both of the projects that have documented the site that at least Feature 1 is of Native American affiliation

and of Protohistoric or early Historic age, the CMP recommends that this site be considered as eligible according to Criteria D—has yielded, or may be likely to yield, information important in history or prehistory. Protection and preservation are recommended as is the radiocarbon dating of charcoal from the hearth.

5LR6984

Site 5LR6984 was initially recorded by Robert Brunswig and Kathryn Plimpton, archaeologists from the University of Northern Colorado (UNC), in 2000 as part of their Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000), and was apparently revisited by William Butler later that same year during his Survey of the Bear Lake Road project (Butler 2000). Brunswig described the site as "a historic, Euro American camp site consisting of a partially fallen down branch lean-to (against a large boulder), a small rock-lined hearth, and several rusted tin cans." Butler, on his OAHP Management Data form, does not mention the lean-to but describes the site as a "rock foundation, hearth, and tin can dump." Several photographs are provided of a semi-circular rock alignment extending from the east or northeast face of a large boulder—presumably the "rock foundation."

The CWP field crew relocated the site, in order to investigate the potential existence of the lean-to structure mentioned by Brunswig, however only the rock semi-circle, the hearth, and the rusted metal cans were found. The site was photographed and GPS-mapped however, due to the absence of any wooden features and therefore not of concern to the Wickiup Project, the site was not reevaluated or further documented. The presence of charcoal throughout the area within the rock semi-circle leads these researchers to believe that the feature is a large "bonfire" circle, rather than a structure foundation.

5LR7002

Site 5LR7002 was initially recorded by Robert Brunswig, archaeologist from the University of Northern Colorado (UNC), in 2000 as part of his Archaeological Surveys in Rocky Mountain National Park (Brunswig 2000). The site was described as "a historic, Euro American trash midden and modern pine pole wickiup. The wickiup is of recent construction and is a conical arrangement of lodge pole pine poles (n=34) with a maximum height of 2.7m and a base diameter of 2.2m. Historic artifacts found scattered near the structure include broken bottle glass, bailing wire, and fractured red bricks. The artifacts are mid-20th Century in origin." A photograph of the wickiup and a rough site sketch map showing the feature's location in relation to Bear Lake Road, an abandoned 2-track road, and the road to Sprague Lake are provided.

The CWP field crew relocated the site, in order to confirm or repudiate the interpretation of the wickiup as being of recent construction, however only the trash scatter was found. The location of the former wooden feature was established by referencing the original site map, however all that remained were numerous dead-fall trees on the ground surface, similar to those throughout the surrounding forest. Due to the absence of any wooden features, and therefore not of concern to the Wickiup Project, the site was not reevaluated or further documented.

5LR10229

Site 5LR10229 was initially recorded, remarkably, as an isolated find (IF) by William Butler, Park Archaeologist for Rocky Mountain National Park, in 2001 as part of the Archaeological Survey of a Small Area on Deer Mountain (Butler 2001). At that time the main feature at the site was described as a "wickiup consisting of branches of 31 standing aspen, one standing ponderosa pine, and 20 aspen on the ground. The standing aspen are in the crotch of a large ponderosa pine tree." The feature was not field evaluated for eligibility as it was considered an IF. Butler interpreted the feature as being of historic ("recent") construction based on the presence of the ponderosa timber incorporated into the framework. No explanation was provided as to why this fact would lead him to this conclusion, for, although a clear majority of the wooden elements in Native American wickiups in RMNP are of aspen, they are not exclusively of this species.

After a fairly lengthy search, the CWP investigations relocated the site 155m to the northwest of its UTM location as listed on the OAHP Isolated Find Record. Additionally, a second wooden feature, in the form of a burned log leaned against a boulder, was documented. The CWP photographed, measured, and GPS-mapped the features, and Aboriginal Wooden Feature Component Forms were completed. The current project increased the site size from its original dimensions of 2m in diameter to 18m north-south by 30m east-west in order to incorporate the additional feature. As no identifier was given to the wickiup by the previous recordation, the CWP has identified it as "Feature 1", and the log leaner as "Feature 2."

Site Description

5LR10229 consists of a single partially collapsed leaner wickiup, Feature 1, and a burnt log leaning against a boulder, Feature 2. No associated artifacts were found on the site either during previous investigations, however the current project recorded a stick that has been whittled to sharp points on each end. The site is located on the south talus slope of Deer Mountain, at an elevation of 9100 feet, overlooking Beaver Meadows to the south (Figures 13, A-12, and A-1). The site is in the Montane Life Zone and vegetation consists of ponderosa pine and grasses with Douglas fir, Engelmann spruce, aspen, and wild rose in the surrounding area. The colluvial and residual soils consist of dark brown gravelly decomposed granite overlain with several centimeters of pine duff. Ground visibility is approximately 10%, due to the grass and duff cover. A metal detector was utilized to scan the entire site area with negative results.

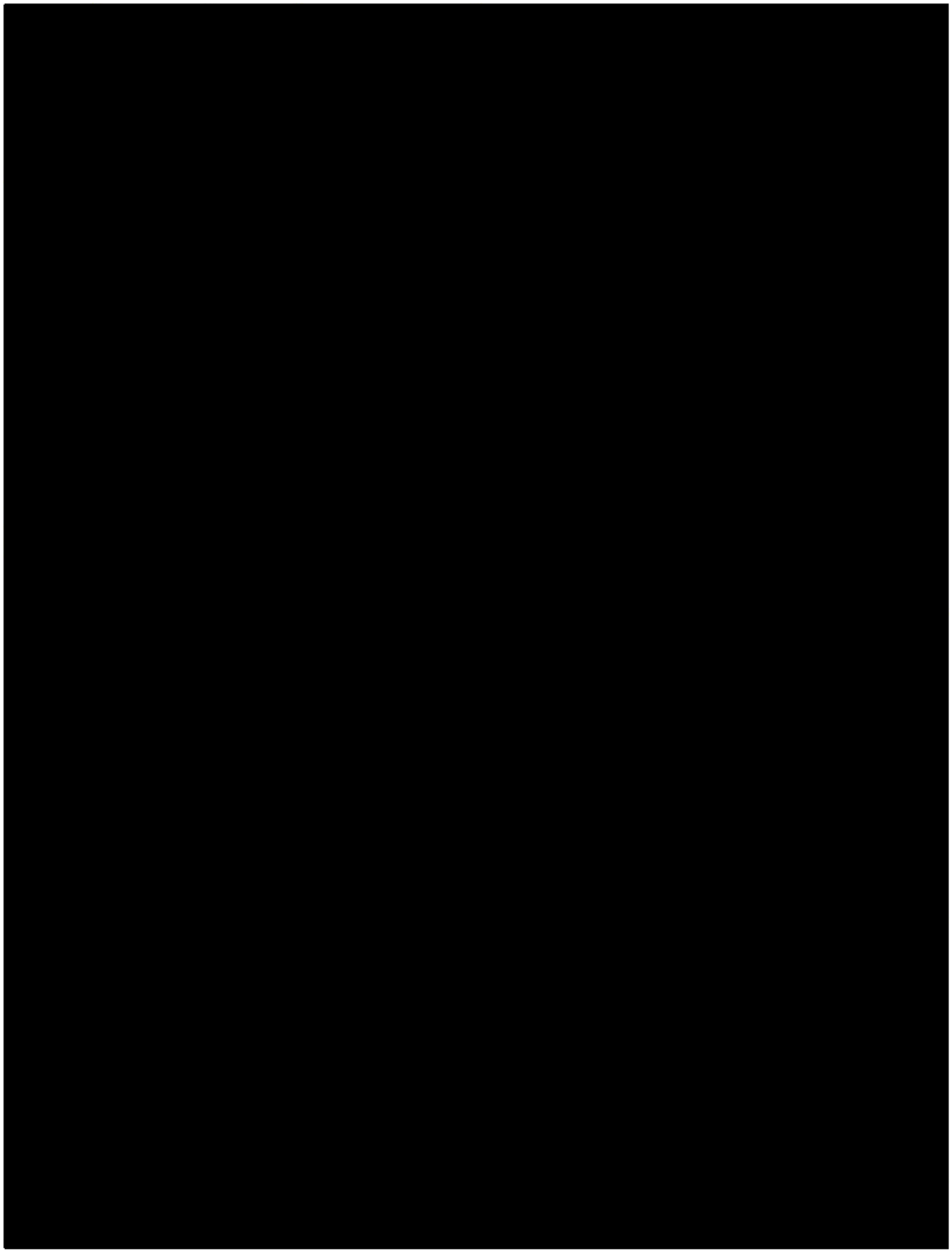


Figure 13. Plan map of 5LR10229

The only artifact noted on the site surface consists of a bi-pointed, knife-whittled stick that was found 2m to the northwest of Feature 1 (Plate 10). The heavily weathered stick measures 23.1cm in length by 4.0cm in diameter. Although its purpose remains undetermined—stake for holding down a wickiup cover? horse picket pin?—it indicates the presence of metal knives on the site.

Feature descriptions

Feature 1 is a partially collapsed leaner style wickiup, consisting of 45 poles, approximately 40 of which are aspen and the remainder are undetermined evergreen, leaned against the south-southeast side of the trunk of a live ponderosa (Figure 14 and Plate 10). Nineteen of the poles are standing and the other 26 have collapsed to the ground around the base of the support tree. The poles range from 1.0m to 2.9m in length and from 3cm to 23cm in mid-pole diameter. Further collapse and subsequent accelerated deterioration appears imminent.

Between the time that the photographs were taken in 2001, and the recordation of the feature by the CWP in 2010, several poles have collapsed and others have been added to the structure. The 2001 arrangement of the poles shows a 180° or more semi-circle of poles around the south side of the support tree. In 2010, there were seven poles standing and leaning against the *north* side of the tree trunk that are *not* in the 2001 photos—an obvious example of how some of the ephemeral wooden features in RMNP are being altered (and even newly-created) by park visitors, and how the integrity and authenticity of certain structures needs to be treated with caution. The dismantled and reconstructed Feature 1 at site 5LR4531 is another clear example, and several obviously modern "wickiup" and "tipi" frames were also noted in the park by the CWP field crew (Plate 11). It should be noted that the well-used Deer Mountain Trail is situated only 25m to the east of 5LR10229, and that Feature 1 can be seen from the trail.

Despite the compromised integrity of Feature 1, it remains possible to confidently calculate the interior dimensions of the wickiup. The semi-circular floor, the most obvious "half-circle" floor plan thus far recorded anywhere by the project, measures 2.7m north-south by 1.2m east-west, and the internal height or headroom is 1.5m. The resultant floor area is approximately 2.9 square meters. A gap between poles shown in the 2001 photos suggests the presence of a 50cm-wide entryway facing to the northwest.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. Based on the experience of the CWP, these researchers consider it likely that the conical configuration of aspen poles likely represents the remains of a Native American feature, most likely of Ute or Arapaho construction. The strongest argument for this interpretation would be the fact that a clear majority of the wooden elements are of aspen, rather than ponderosa limbs that are currently much more readily available in the immediate vicinity of the wickiup.

Not only does there exist a clear preference for aspen feature poles among the Protohistoric and early Historic aboriginal populations at high elevations in Colorado (Martin, Brown, and Lindstrom 2011:110), but the closest aspen grove to the feature at present is more than 100m to the east and it is unlikely that "boy scouts" or other recent visitors to the park would travel that far to gather the hundreds of pounds of building materials represented in Feature 1, for the mere purpose of creating a temporary "play house." As discussed elsewhere in this report, it has been documented that much of the former aspen growth in the park has been supplanted by conifer forest; a plausible scenario at the location of this site.

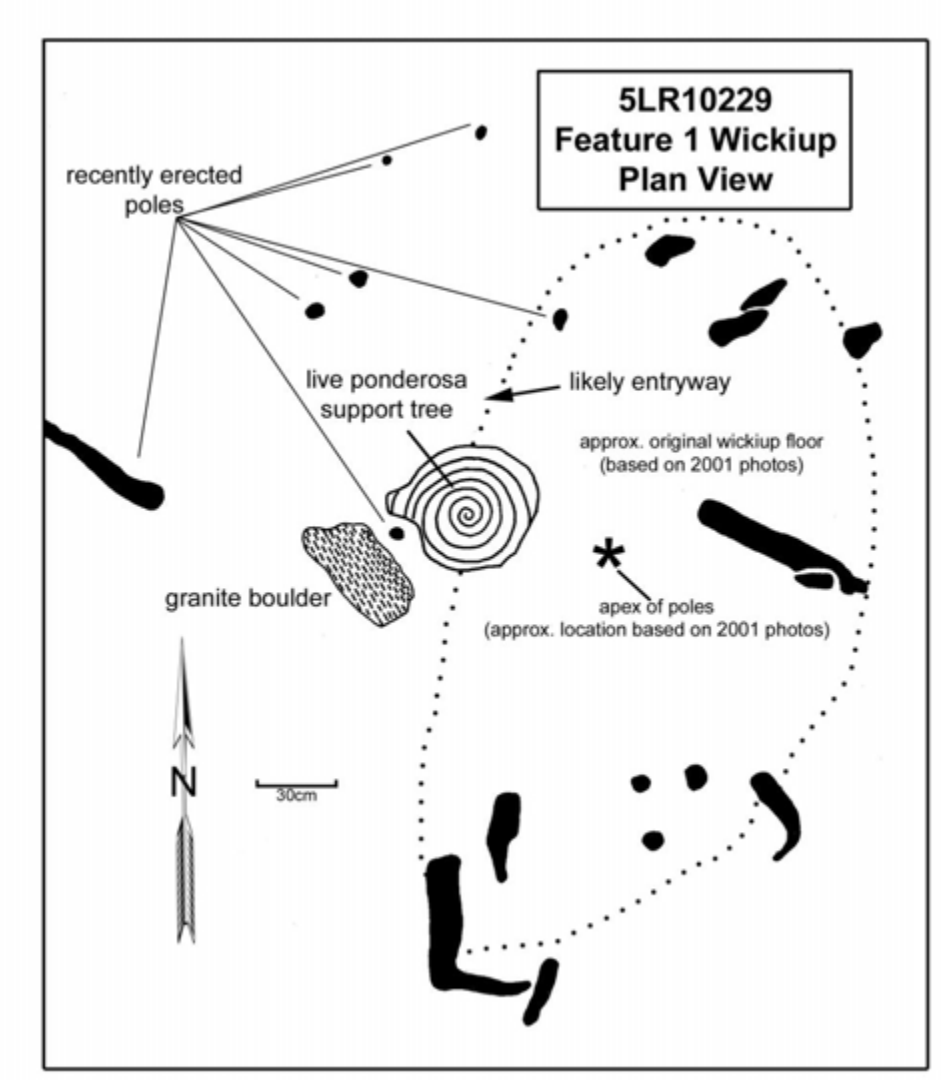


Figure 14. Plan map of Feature 1 at 5LR10229

Feature 2, 15m to the northeast of Feature 1, consists of a single 1.1m-long, 13cm diameter, burnt evergreen log leaned against the southeast side of a 1m diameter granite boulder. It is undetermined as to why the partially-burned log, of rather large diameter, would have been leaned against the boulder, however it obviously was placed there intentionally. It

has been recorded as a "utility pole." It has been in its current position for an appreciable length of time, as the lichen on the surface of the boulder directly beneath the log has died off. Its association, or lack thereof, with Feature 1 is unknown.

Evaluation and Management Recommendation

Site 5LR10229 was not field evaluated in regard to eligibility for inclusion on the National Register of Historic Places in 2001, as it was recorded as an Isolated Find. As the current project has interpreted at least one of the features at the site as apparently being a Native American wickiup of Protohistoric or early Historic age, the CMP recommends that this site be considered as eligible according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation are recommended, as is periodic monitoring of the site for evidence of vandalism and deterioration.

5LR12899, The Lightning Bear Wickiup

Site 5LR12899, had not been previously recorded, however, its location was marked on the RMNP cultural resource maps as "5LRwick2," with a notation stating that it was the location of a "Native American wickiup." It has proven to be one of the premier standing wickiups known in the Park. The CWP field crew located the isolated structure and assigned it the name "Lightning Bear Wickiup" based on an incident that occurred on the day of its recordation. Immediately after finding the feature a violent thunder storm passed through the area. The crew members took shelter under their respective rain ponchos from the lightning, hail, and pounding rain. As the storm abated, the crew came out from under their shelters to find themselves being watched by the third bear they had seen over the period of four days.

The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The site size has been recorded as 20m in diameter, including a buffer zone around the wickiup, Feature 1. A metal detector was utilized to scan the entire site area with negative results.

Site Description

5LR12899 consists of an isolated, standing, leaner wickiup; Feature 1. No associated artifacts were found on the site, which is located near the base of the south lateral moraine of the Fall River Glacier to the southeast of the east end of the open meadow of Horseshoe Park, at an elevation of 8560 feet (Figures 15, A-5, and A-1). The site is in the Montane Life Zone and

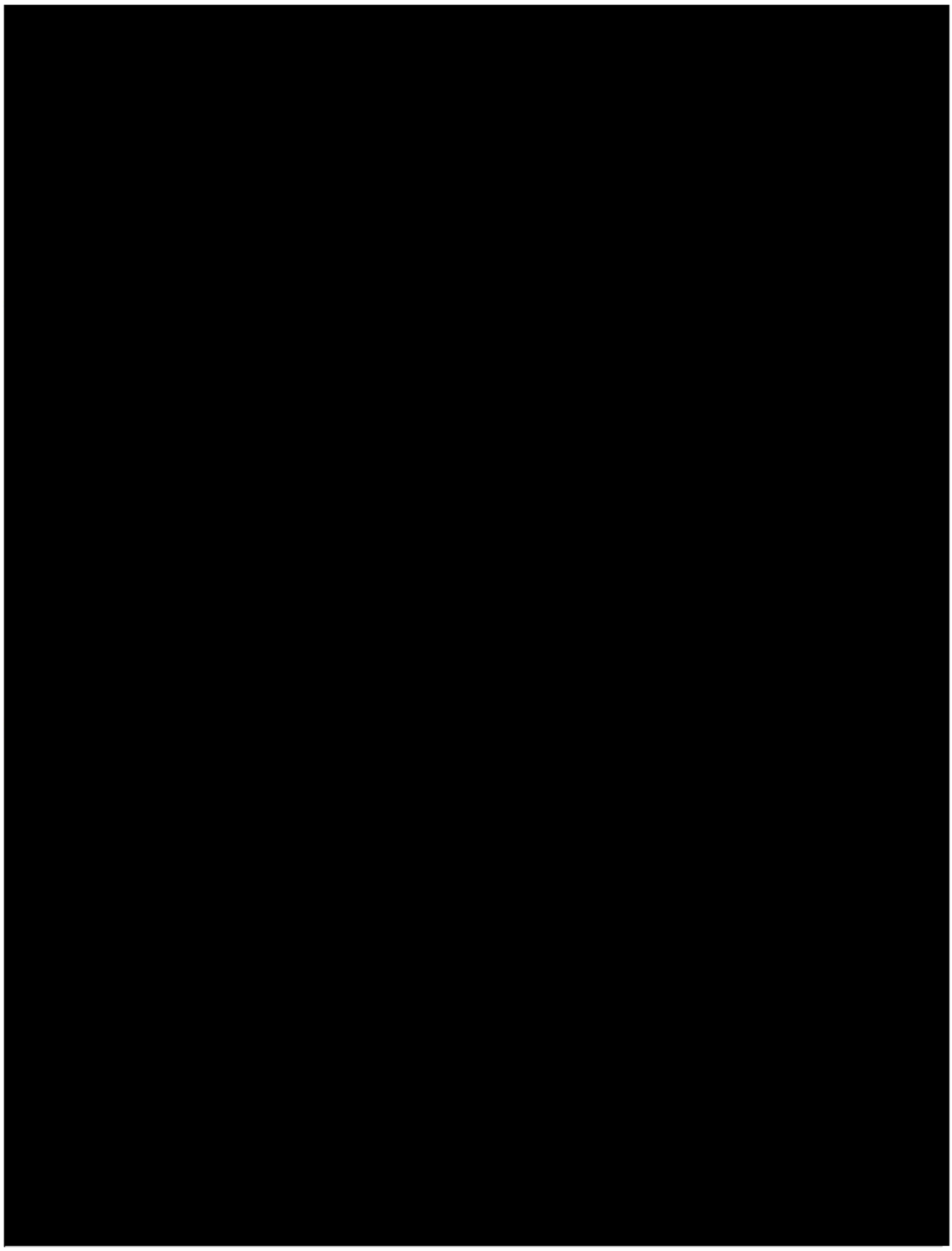


Figure 15. Plan map of 5LR12899 and 5LR4503

vegetation consists of a ponderosa pine forest with Engelmann spruce, a single aspen tree, golden banner, penstemon, buffalo grass, and blue grama grass. The residual moraine deposits consist of brown rocky and gravelly sandy silt of at least 45cm in depth. Ground visibility is approximately 60%.

Feature descriptions

Feature 1 is a standing leaner style wickiup, consisting of 32 aspen poles leaned against the south side of the trunk of a live ponderosa (Figure 16 and Plate 12). All but one of the poles remain standing and range from 1.0m to 3.9m in length and from 3cm to 9cm in mid-pole diameter. The oval shaped floor measures 2.3m east-west by 1.3m north-south and the internal height or headroom is 1.0m. The resultant floor area is approximately 2.3 square meters. A gap between the support tree and the first pole to the east indicates the location of the north-facing entryway, which is 60cm in height and 90cm in width at ground level. The Lightning Bear Wickiup is one of the few remaining intact conical wickiups known in Rocky Mountain National Park, and the region as a whole.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. Based on the experience of the CWP, these researchers have little reservation that the conical configuration of aspen poles likely represents the remains of a Native American feature, most likely of Ute or Arapaho construction. The strongest argument for this interpretation would be the fact that the wooden elements are of aspen, rather than ponderosa limbs that are currently much more readily available in the immediate vicinity of the wickiup.

Not only does there exist a clear preference for aspen feature poles among the Protohistoric and early Historic aboriginal populations at high elevations in Colorado (Martin, Brown, and Lindstrom 2011:110), but there are presently very few aspen growing in the vicinity of the feature and it is unlikely that recent visitors to the park would travel far to gather building materials for the purpose of creating a temporary "play house." As discussed elsewhere in this report, it has been documented that much of the former aspen growth in the park has been supplanted by conifer forest; a plausible scenario at the location of this site.

Evaluation and Management Recommendation

Site 5LR12899 is field evaluated as eligible for placement on the National Register of Historic Places (NRHP). Feature 1 qualifies for listing according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has yielded information important in prehistory and history). The Lightning Bear Wickiup site is a rare and valuable resource that is threatened by collapse, fire, and disturbance by humans and wildlife

alike. All efforts should be made to preserve, protect, and periodically monitor the site in the future.

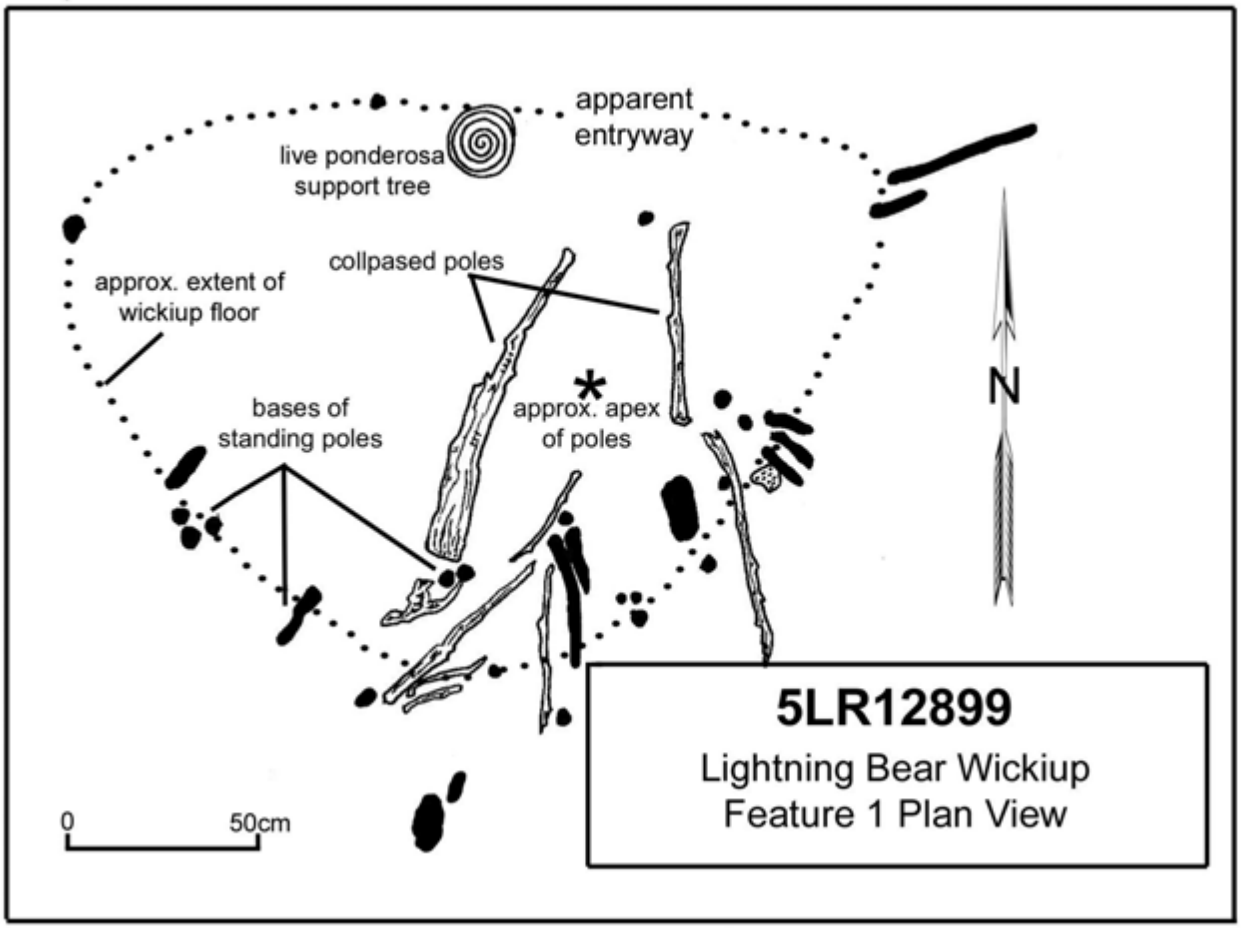


Figure 16. Plan map of Feature 1 at 5LR12899

Preservation and protection are recommended. Feature 1 should be fenced in order to protect it from both wildlife and human impacts and it is recommended that the area surrounding the wickiup should be maintained in order to lessen the threat of fire damage. Additionally, periodic monitoring and test excavations at the feature are recommended to investigate the nature and vertical extent of the subsurface cultural deposits.

NEWLY DISCOVERED SITES DOCUMENTED BY THE COLORADO WICKIUP PROJECT (9)

5LR12634

Site 5LR12634 was discovered by the CWP field crew while searching for site 5LR10229. The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The site size has been recorded as 20m in diameter, including a buffer zone around the wooden feature, Feature 1. A metal detector was utilized to scan the entire site area with negative results.

Site Description

5LR12634 consists of an isolated, partially standing, leaner-style shelter, Feature 1. No associated artifacts were found on the site, which is located on the south talus slope of Deer Mountain, at an elevation of 8920 feet, overlooking Beaver Meadows to the southwest (Figures 17, A-13, and A-1). The site is in the Montane Life Zone and vegetation consists of ponderosa pine and grasses with Douglas fir, Engelmann spruce, aspen, and wild rose in the surrounding area. The colluvial and residual soils consist of dark brown gravelly decomposed granite overlain with several centimeters of pine duff. Ground visibility is approximately 10%, due to the grass cover and duff layer.

Feature descriptions

Feature 1 has been recorded as a standing leaner style wickiup, however the long, narrow poles suggest that the feature was possibly a tipi frame rather that an expedient wickiup. Ute-affiliated, leaner-style, canvas or hide-covered tipis supported by living trees have been documented elsewhere in Colorado (Martin, Brown, and Lindstrom 2011).

Feature 1 consists of 14 aspen poles, seven standing and seven collapsed, leaned against the northeast side of the trunk of a live Douglas fir support tree. The poles range from 1.8m to 4.8m in length and from 6cm to 9cm in mid-pole diameter. Although partially collapsed, the floor size can be estimated from the remaining standing elements. It appears as if the floor shape had originally been semi-circular in nature and measured approximately 1.9m north-south by 1.7m east-west, with an internal floor space of approximately 2.5m and a height or headroom of 1.7m. The location of the entryway could no longer be determined.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. Based on the experience of the CWP, these researchers have little doubt that the conical configuration of aspen poles likely represents the remains of a Native American feature, most likely of Ute or Arapaho construction. The strongest argument for this interpretation would be the fact that the wooden elements are of aspen, rather than fir or other

conifer limbs, which are currently much more readily available in the immediate vicinity of the structure.

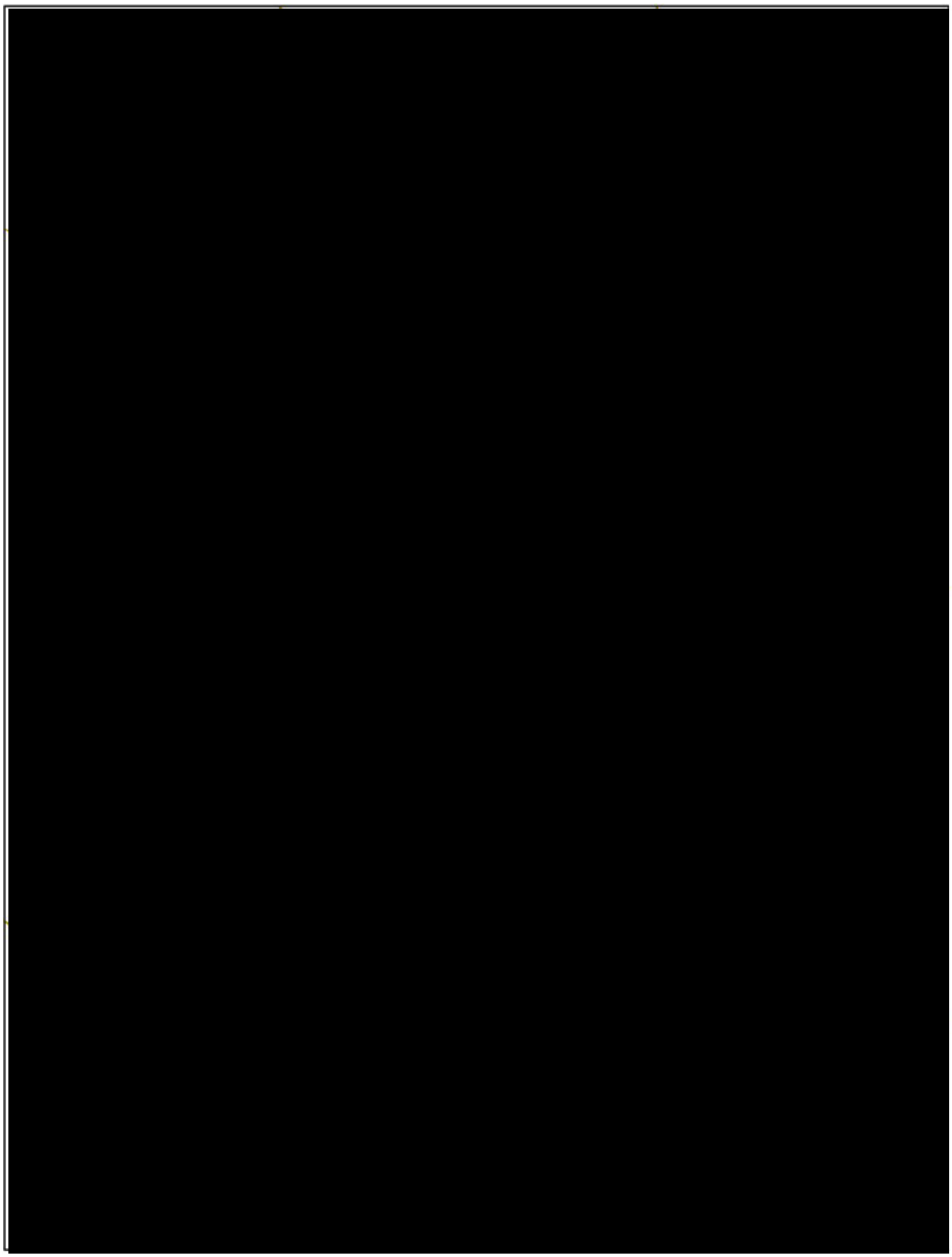


Figure 17. Plan map of 5LR12634

Evaluation and Management Recommendation

Site 5LR12634 is field evaluated as eligible for placement on the National Register of Historic Places (NRHP). Feature 1 qualifies for listing according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Preservation and protection are recommended, however no further work is proposed by the current project.

5LR12635

Site 5LR12635 was discovered by the CWP field crew while searching for site 5LR3857. The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The site size has been recorded as 20m in diameter, including a buffer zone around the wooden feature, Feature 1. A metal detector was utilized to scan the entire site area with negative results.

Site Description

5LR12635 consists of an isolated culturally modified tree, Feature 1. No associated artifacts were found on the site, which is located on a ridge top at the southeast end of Beaver Meadows at an elevation of 8210 feet (Figures 18, A-14, and A-1). The site is in the Montane Life Zone and vegetation consists of a ponderosa pine forest with unidentified forbs and grasses. The residual soil consists of brown sandy loam overlain with several centimeters of pine duff. The soil depth is estimated to be less than 25cm, based on the number of cobbles on the surface and the amount of exposed granitic boulders that are exposed. Ground visibility is approximately 5%, due to the grasses and duff layer. No artifacts were noted on the site surface other than two recent weathered wooden survey or tent stakes found nearby.

Feature descriptions

Feature 1 is a culturally modified ponderosa pine tree (Plate 9). The modification consists of a cultural bark peel typical of those known from Protohistoric Ute sites. Although the scar is not unlike a trail blaze, there is no trail nearby, and it is in an unlikely location to suggest that this were ever the case. The scar is situated on the south side of a mature ponderosa. It is at a height of 100cm to 147cm above the ground surface and measures 47cm in height and 27cm in width. The depth of the scar is 6cm. Metal ax scars are visible on the top and bottom of the scar and within the peel on the right side. One still-connected “chip” of wood from an ax cut appears to have been burnt.

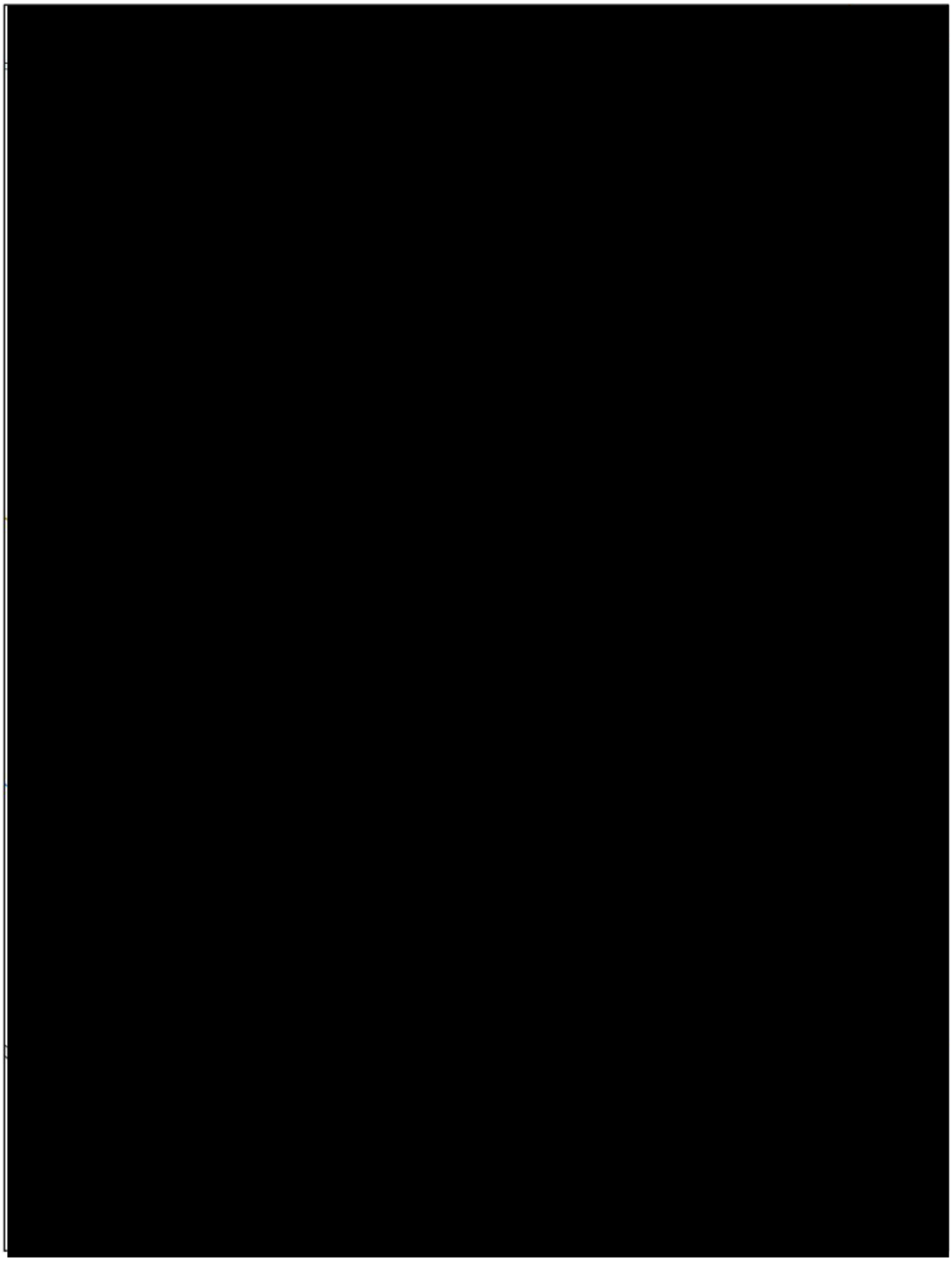


Figure 18. Plan map of 5LR12635

The tree itself has a diameter of 51cm at the height where the scar is. It is approximately 14 to 15 meters tall, and is alive and healthy. A large burl has been chainsawed off of another large ponderosa approximately 25m to the southwest of Feature 1.

Although the amount of scarring surrounding the bark peel suggests substantial antiquity, it difficult to date the age of the ax cut simply by visual inspection. Numerous similar bark peels throughout the state, primarily on ponderosa pine trees, have been attributed to the Protohistoric and early Historic Ute (Martin, Ott, and Darnell 2005). It is possible, although unlikely, that the scar is a historical trail blaze or marker. Two tree-ring cores were removed from the tree: FS5 from the surface of the wood within the bark-peeled surface and FS6 taken through the outer bark immediately below the peel. These dendrochronological samples have not been submitted for dating.

Evaluation and Management Recommendation

Site 5LR12635 is field evaluated as eligible for placement on the National Register of Historic Places (NRHP). Feature 1 qualifies for listing according to Criteria D (has or is likely to yield information important in prehistory and history). Protection and preservation are recommended, however no further work is proposed by the current project.

5LR12636

Site 5LR12636 was discovered by the CWP field crew while hiking in to site 5LR4499. The CWP photographed, measured, and GPS-mapped the features, and Aboriginal Wooden Feature Component Forms were completed. The site size has been recorded as 20m in diameter, including a buffer zone around the two wooden features. A metal detector was utilized to scan the entire site area with negative results.

Site Description

5LR12636 consists of a collapsed wickiup, Feature 1, and an associated utility rack, Feature 2. No associated artifacts were found on the site which is located on a low, broad alluvial bench at the base of the south lateral moraine of the Fall River Glacier. The wooded bench overlooks Horseshoe Park to the northeast, and the site is at an elevation of 8560 feet (Figures 19, A-15, and A-1). The site is in the Montane Life Zone and surrounding vegetation consists of a fir and ponderosa pine forest with sparse grasses. The colluvial soil consists of brown sandy silt overlain with up to 7cm of highly organic pine duff. Ground cover, due to the duff layer, is virtually complete. A metal detector was utilized to scan the area within and surrounding both features with negative results.

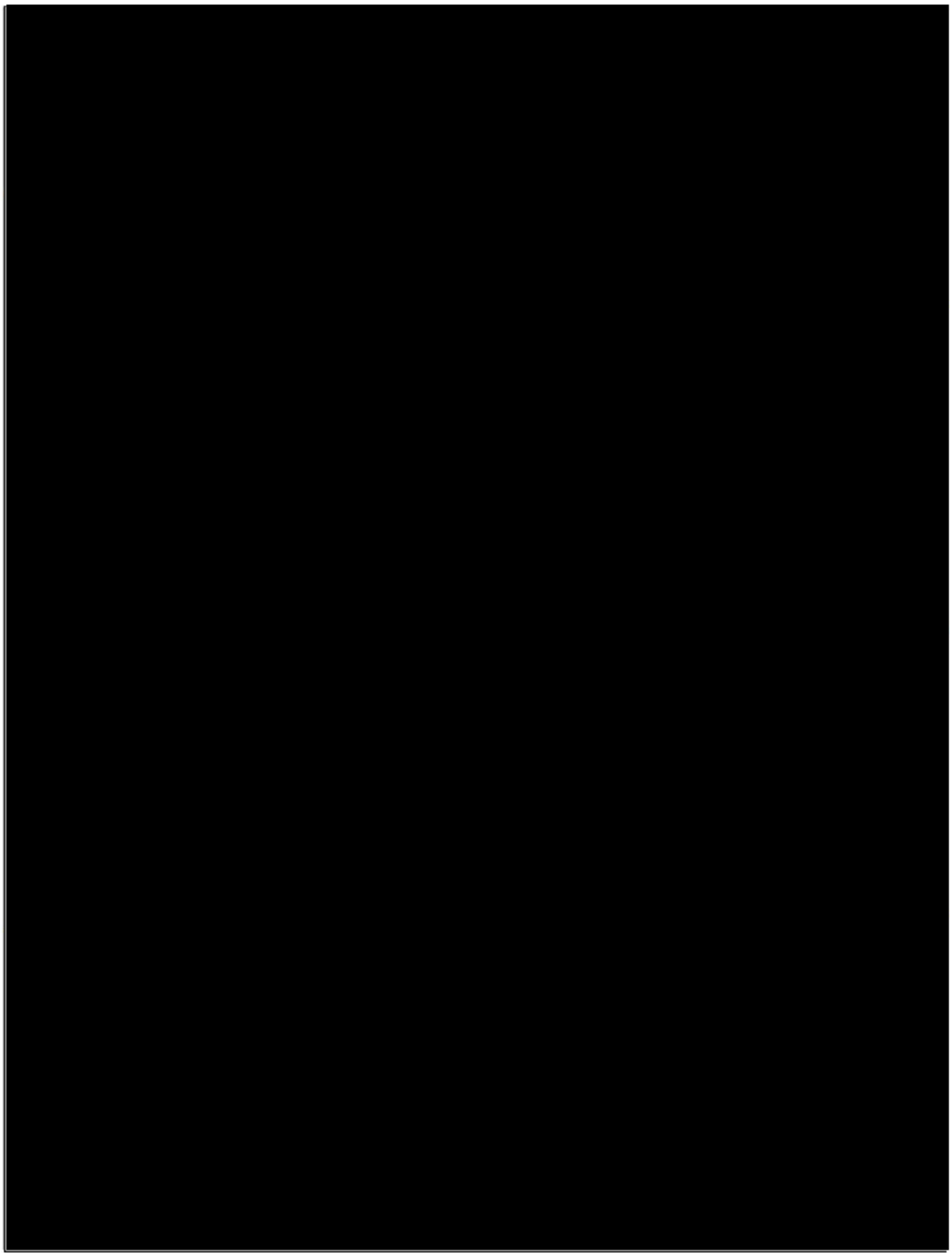


Figure 19. Plan map of 5LR12636 and 5LR4499

Feature description

Feature 1 is a collapsed, freestanding style wickiup consisting of a concentration of 28 aspen poles resting on the ground surface with their tips facing to the southwest and the butts to the northeast. It has retained a triangular configuration denoting the shelter's original conical nature as a standing wickiup.

It is impossible to ascertain the nature and size of the floor plan, headroom, or entry orientation of the shelter in its current condition. The poles range from 1.4m to 3.7m in length, and from 5cm to 8cm in mid-pole diameter, with the exception of one pole that is 4.0m in length and possibly represents a former smoke flap or utility pole.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, the configuration and nature of the wooden elements indicates a Native American affiliation, rather than historic Euro-American.

Feature 2, appears to be a standing utility rack consisting of three aspen poles resting against the northwest side of a dead standing ponderosa pine tree. The poles range from 4.7m to 5.3m in length, and from 7cm to 9cm in mid-pole diameter, notably larger than those represented in nearby Feature 1, which supports the interpretation of these elements as utility poles—of undetermined purpose—rather than a cache of "extra" wickiup poles. Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, the nature of the wooden elements, and their apparent association with the Feature 1 wickiup, suggests a Native American affiliation.

Evaluation and Management Recommendation

Site 5LR12636 is field evaluated as eligible for placement on the National Register of Historic Places (NRHP). The wooden features qualify for listing according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation is recommended, however no further work is proposed by the current project.

5LR12900, the Tea House Wickiup

Site description

Site 5LR12900, the Tea House Wickiup, was discovered by the CWP field crew while searching for site 5LR6984. It consists of a remarkably well-preserved isolated wickiup, Feature 1, situated in a shallow natural depression or swale between two east-west trending ridges that are low fingers of a the Bierstadt Moraine (Figures 20 and A-16). No portable artifacts were found on the site despite thorough metal detection and surface inspection. It remains possible, however, that artifacts remain hidden by the nearly 100% pine duff ground cover. The site, and wickiup, were named after the initials of Travis E. Archuleta, the DARG researcher who discovered the previously undocumented structure.

The site is at an elevation of 8630 feet in a dense forest of lodgepole pines. The fact that the wickiup poles are primarily of aspen suggests that the forest in the vicinity at the time of construction at least partially consisted of *Populus tremuloides*. No aspen trees, live or dead, can be seen from the site at the current time. Other vegetation in the immediate area consists of common juniper. Ground cover is total, as a result of pine needle duff of up to 8cm or more in depth. Below the duff the residual soil consists of light gray, coarse sandy gravel and decomposed granite.

As no artifacts were found, other than the feature itself, the site boundary has been defined as a buffer zone extending approximately 25m in all directions from the wickiup, creating a site 50m in diameter. The cultural affiliation of the site is postulated as Protohistoric or early Historic Native American, based on the condition of the standing structure and individual wooden elements, as well as the apparent age of the trees that have grown up through the floor of the feature.

Our initial concerns that the feature was of recent, park visitor or "boy scout," construction were alleviated by several factors:

- the fact that the shelter is constructed primarily of aspen poles, which haven't grown in the immediate vicinity of the site for decades—having been replaced by a mature lodgepole pine forest,
- the presence of five "100 to 150" year old lodgepole pines (currently in the process of being tree-ring dated) that have grown up through the structure, parting its poles, and rising to a height of up to 18 meters,
- the skilled and proficient workmanship of the conical structure itself,
- the deteriorated nature and depth below present ground surface of the bases of the feature poles,
- the complete lack of recent artifacts or trash on the site surface, or as a result of metal detection activities (no artifacts of any age were found, however the ground is covered in heavy duff, which possibly has masked non-metallic items).

No evidence of ax-cuts was found on the Feature 1 poles, however trowel tests were conducted at the bases of only two poles—which were found to be decayed. Several of the poles exhibited root flare at their bases, indicating that they had been uprooted when collected. As elsewhere in RMNP, dead standing aspen and pine trees are commonplace in the surrounding forest and it is unlikely that the architects of Feature 1 would have gone to the extra effort of securing live trees for utilization in the construction of the shelter when there was a readily available source of easily obtainable straight and narrow dead poles. Accordingly, no tree-ring samples were collected from the feature elements as they would likely produce dendrochronological dating results significantly earlier than the target date of when the shelter was constructed. However, a core was removed from one of the intrusive lodgepole pine trees, as described below in the feature description.

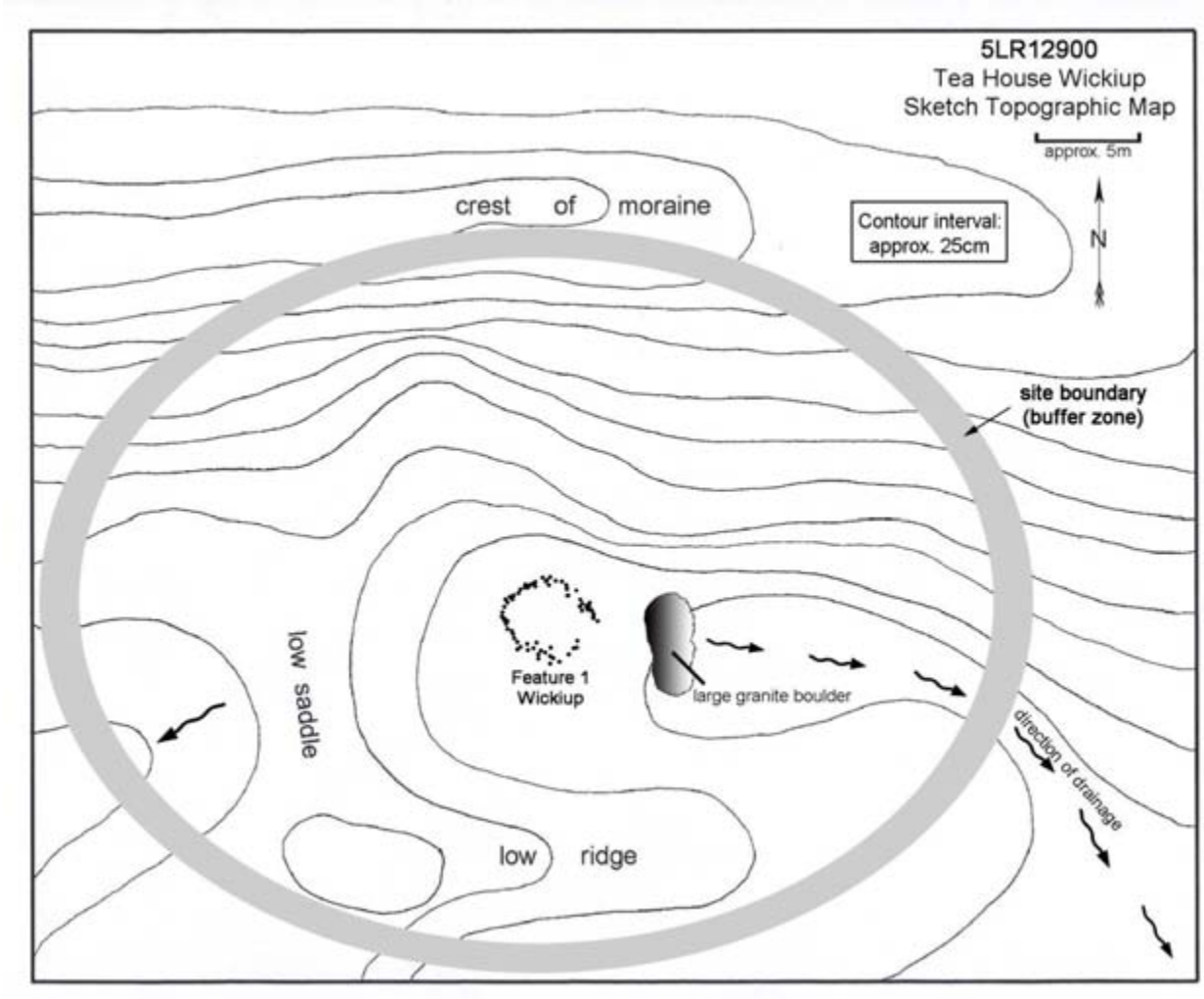


Figure 20: Site Sketch Plan of 5LR12900, the Tea House Wickiup Site

Feature Description

Feature 1, the Tea House Wickiup itself, was originally constructed as a freestanding conical framework of at least 69 aspen and conifer poles (Figures 20, 21, and A-16 and Plates 12 and 13). Although there are three straight aspen poles resting on the ground surface in the interior of the wickiup (Figure 21 and Plate 13), they are too short to have been a part of the original framework, and there is no evidence of any additional wickiup poles that may have collapsed over the years. However, three other short aspen sticks rest against the eastern exterior of the shelter, to the right of the entryway, that appear to be recent additions placed over a narrow gap in the framework. It is possible, although untested, that the sticks on the exterior are fragments of those resting inside, and that they represent original wickiup poles that broke in two at some point, and were "rescued" by recent visitors and placed both over the gap and on the floor of the shelter. Two of the three short exterior sticks are "upside down," with their root flares or butts at the top, and the narrow ends resting on the ground, suggesting post-abandonment replacement by individuals other than the original architect. Discounting these three sticks, the standing elements in the feature consist of 50 aspen poles and 19 conifer poles.

The roughly circular interior floor measures 2.4m north-south by 2.9m east-west and has a notable interior headroom of 2.6m. The resultant floor area is approximately 5.5 square meters. The entryway faces to the east-southeast. A small, unaltered granitic boulder, now broken into two fragments, rests on the floor of the structure against the northwest interior wall—its upper surfaces lichen covered. No purpose for this rock has been determined. Additionally, two fragments of partially burned wood were found on the southwest side of the feature—one on the interior and the other on the exterior.

No evidence remains regarding any form of brush, hide, or canvas covering for the shelter, and no associated hearth or other artifacts were found at the site, despite a thorough search of the surface and metal detection. As discussed earlier, however, ground cover would have masked any non-metallic artifacts or features.

Trowel tests were conducted at the base of only two poles—on the northwest side of Feature 1—indicating that these poles were buried in 4-6cm of duff and soil. Their bases rested on the upper contact with a surface of decomposed granite—the apparent original living surface while the site was occupied.

No ax cuts were noted on the feature poles, or in the surrounding lodgepole pine forest, and, without additional artifactual evidence, it is difficult to assign an age to the structure, however, five lodgepole pines have grown up from the floor and perimeter of the wickiup, presumably since it was utilized as a shelter. Three of these trees—those on the interior—have grown up through the wickiup poles (Plate 13), pushing them aside as they did, and grown to heights ranging from approximately 3.5 to 18 meters. The diameter of the largest interior tree trunk is 25cm and park rangers and foresters have estimated that this tree is roughly 100 to 150 years of age—suggesting that the Tea House Wickiup is at least this old. A tree-ring core, Field Specimen 20, was collected from the largest of these trees and was submitted to the Laboratory

of Tree-ring Research at the University of Arizona for dating analysis. The FS20 core did not produce a date sequence but contained 76 rings (likely an incomplete core).

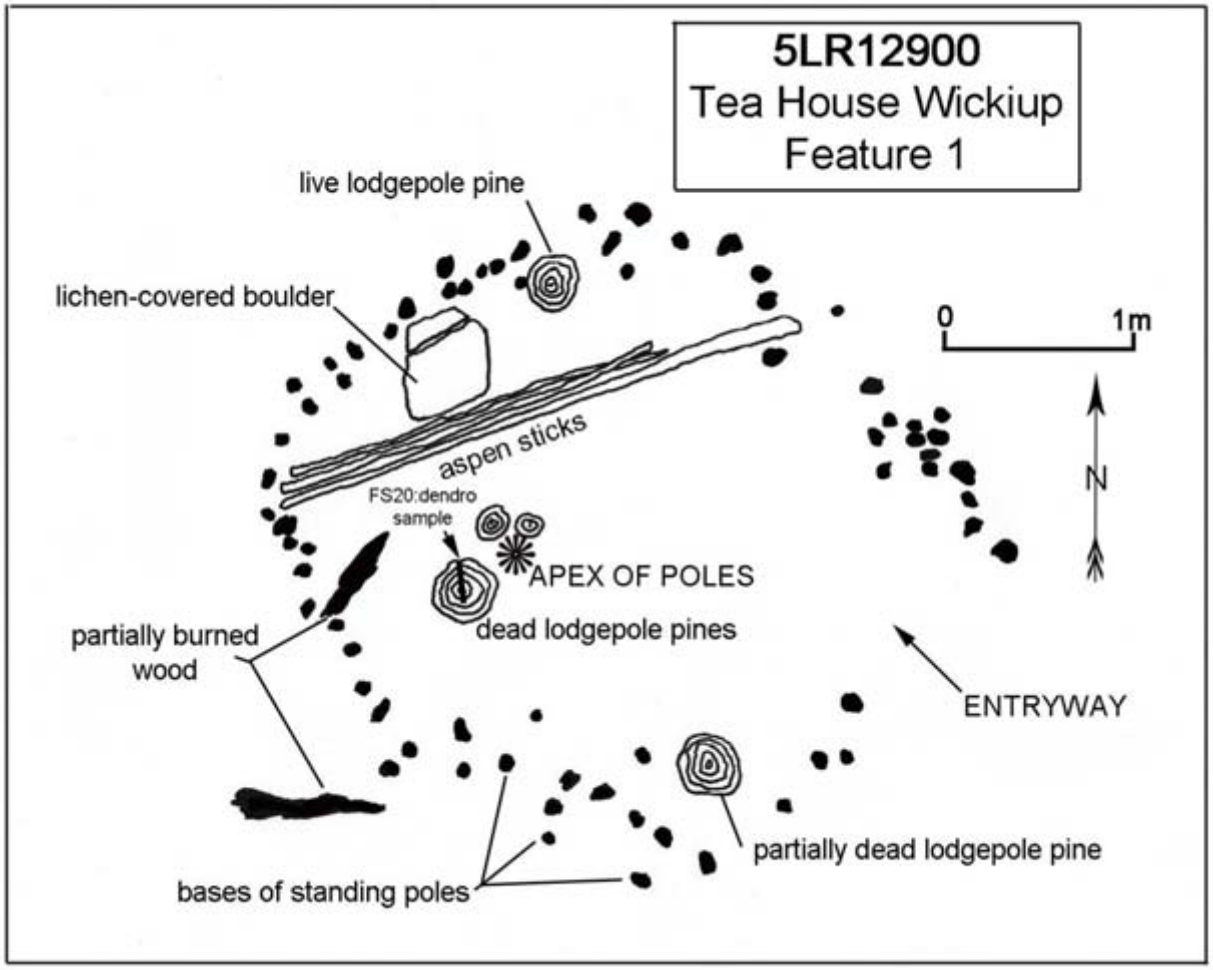


Figure 21: Plan View of Feature 1, the Tea House Wickiup, at 5LR12900

These three interior trees have recently died, apparently as a result of pine beetle kill and are in imminent danger of collapse. It is interesting to note that these very trees, which could easily have pushed the wickiup poles over during their growth and at least partially collapsed the feature decades ago, are now the primary source of support. If these trees were to fall or blow over, all, or a majority of the wickiup poles will fall as well.

Evaluation, Management Recommendations, and Recommended Future Work

Site 5LR12900 is strongly recommended as eligible for placement on the National Register of Historic Places (NRHP). Feature 1 qualifies for listing according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native

Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has yielded information important in prehistory and history). The Tea House Wickiup site is a rare and valuable resource that is threatened by collapse, fire, and disturbance by humans and wildlife alike. All efforts should be made to preserve, protect, and periodically monitor the site in the future. Although hidden from sight by a moraine, the site is a scant 53 meters from a busy trail head for park visitors (Plate 13), and it is astonishing that this wickiup has remained intact this long.

Feature 1 should be fenced in order to protect it from both wildlife and human impacts and it is recommended that the three lodgepole pine trees that grow through the structure should be topped and also stabilized at their contacts with the ground surface. Additionally, other surrounding dead and dying trees should be completely removed to avoid potential threats. The area surrounding the wickiup should be maintained in order to lessen the threat of fire damage. The construction of a permanent protective shelter encasing the entirety of Feature 1 and the lower portions of the stabilized supporting trees should be considered—possibly as an outdoor, *in situ* interpretive display. Collection and preservation of the entire feature in a museum or storage facility is another possibility which should be discussed with members of the Ute and Arapaho tribes.

5LR12902

Site 5LR12902 was discovered by the CWP field crew while searching for sites 5LR4500 and 5LR4509. The CWP photographed, measured, and GPS-mapped the features, and Aboriginal Wooden Feature Component Forms were completed. The site size has been recorded as 50m in diameter, including a buffer zone around the two wooden features. A metal detector was utilized to scan the entire site area with negative results.

Site Description

5LR12902 consists of a standing leaner-style wickiup, Feature 1, and an associated utility pole, Feature 2. No associated artifacts, other than a small scrap of aluminum foil, were found on the site, which is located at the base of the south lateral moraine of the Fall River Glacier, which forms the south side of the broad, open meadow of Horseshoe Park, at an elevation of 8520 feet (Figures 6, A-6, and A-1). The site is a ponderosa pine, Engelmann spruce, and Douglas fir forest in the Montane Life Zone and other vegetation consists of common juniper, Indian paintbrush, Indian ricegrass, and blue grama grass. The colluvial soil consists of dark brown decomposed granite interspersed with boulders. The ground cover, due to the grasses and pine duff is 85% to 90%.

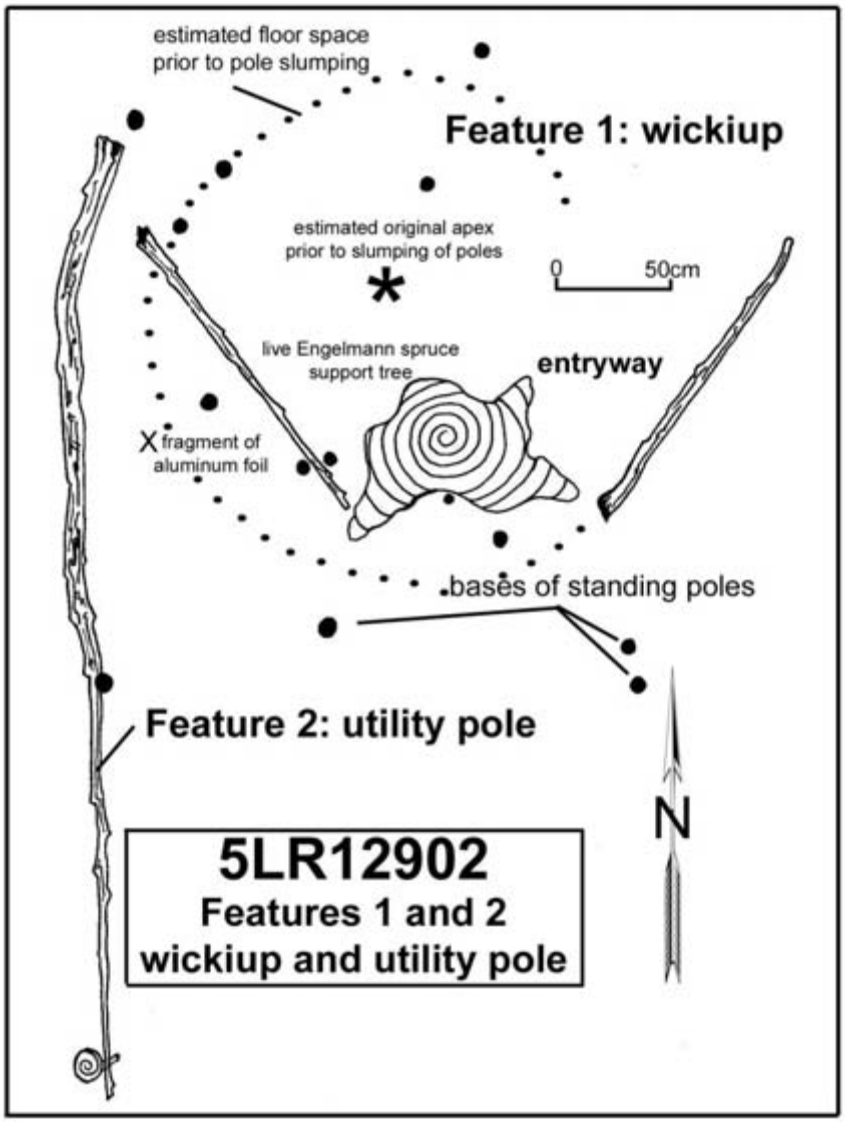


Figure 22. Plan map of 5LR12902

Feature description

Feature 1 is a standing, leaner wickiup consisting of 14 aspen poles leaning against the west-northwest side of a live Engelmann spruce support tree and an additional two aspen poles resting on the ground surface (Figure 22). The poles range from 2.7m to a notable 10.0m in length, and from 4cm to 13cm in mid-pole diameter. The floor of the shelter measures 2.2m north-south by 1.4m east-west—with an area of 4.9 square meters—and the interior headroom is 1.6m. The entryway, consisting of a notably large space between two poles, faces to the east, overlooking Horseshoe Park.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, the configuration and nature of the wooden elements indicates a Native American affiliation, rather than historic Euro-American.

Feature 2, several meters to the west of Feature 1, is an apparent standing utility pole consisting of a single aspen pole resting against the north side of a live Engelmann spruce tree. The pole, of undetermined purpose, is 6.0m in length—longer than a majority of the elements in Feature 1—and 8cm in mid-pole diameter. Although the condition of the wooden element suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, its apparent association with the Feature 1 wickiup suggests a Native American affiliation.

Evaluation and Management Recommendation

Site 5LR12902 is field evaluated as eligible for placement on the National Register of Historic Places (NRHP). The wooden features qualify for listing according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation is recommended, however no further work is proposed by the current project.

5LR12903

Site 5LR12903 was discovered by the CWP field crew while searching for site 5LR7009, another mostly-collapsed wickiup. Based on the photo of the latter site from 2000, it was determined that the newly recorded feature at 5LR12903 was not the same wickiup—it consists of many more poles than shown at 5LR7009, is characterized by a more well defined "wheel spoke pattern, and the large trees growing up through the poles are not in the 2000 photo. The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The site size has been recorded as 20m in diameter, including a buffer zone around the wooden feature. A metal detector was utilized to scan the entire site area with negative results.

Site Description

5LR12903 consists of a totally collapsed freestanding-style wickiup, Feature 1, associated with both interior and exterior hearths (Hearths "A" and "B" respectively). No associated artifacts were found on the site, which is located within Glacier Basin on the valley floor of Glacier Creek, at an elevation of 8800 feet (Figures 23, A-17, and A-2). The site is in a

dense lodgepole pine forest in the Montane Life Zone with a sparse understory of forbs and grass. The soil consists of gravelly, dark brown alluvial and residual soil. The ground cover, due to the grasses and pine duff is 100%.

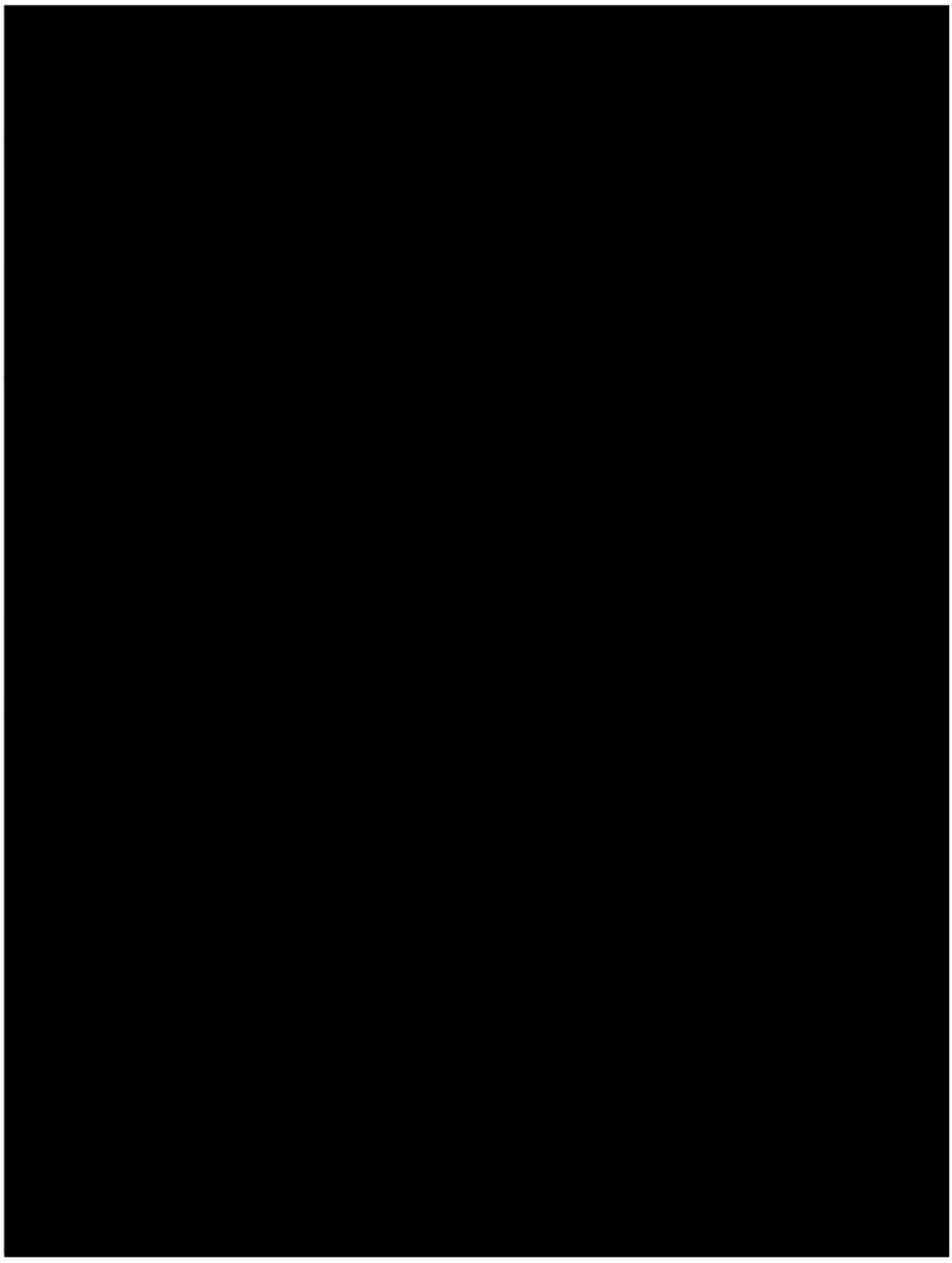


Figure 23. Plan map of 5LR12903 and 5LR12904

Feature description

Feature 1 is a freestanding-style wickiup consisting of approximately 45 poles that have collapsed into a classic "wheel spoke" pattern on the ground, with all of the pole tips facing inwards and the butts to the outside (Plate 14). Notably, the poles are of lodgepole pine, as opposed to the more frequently encountered aspen pole wickiups in the Montane Life Zone. The diameter of the concentration of collapsed poles ranges from 5.3 to 5.7 meters in diameter—providing some estimate as to the original floor size of the shelter. The individual poles themselves range from 2.9 to 5.7m in length and from 3 to 6cm in mid-pole diameter. A gap in the fallen poles on the north-northeast side of the configuration suggests a possible location of the entryway at this point. A number of lodgepole pines have grown up through the collapsed poles, as well as in the immediate vicinity, however none of them appear to have been a support tree for the structure when it was standing.

A series of six simple trowel tests were conducted within and near the feature. Charcoal, ash, and oxidized rock fragments were contacted within the wickiup to the north-northeast of the apex of the collapsed poles that extended to a depth of 5cm below the present ground surface—inside the possible entryway. Another apparent hearth area was found immediately outside of the poles to the north-northwest of the apex, again with ash, oxidized rock, and charcoal fragments up to 1cm in diameter. Two tests near the pole apex and others within the feature to the south, west, and east of the apex produced negative results—no charcoal, ash or evidence of floor treatment of any description. The upper five to eight centimeters in these tests consists of pine duff resting atop very sandy, decomposed granite.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. The pine trees that have grown up through the poles—presumably since its collapse—are up to 20cm at the base and 20 or more meters in height, also suggesting significant age.

Evaluation and Management Recommendation

Site 5LR12903 is field evaluated as eligible for placement on the National Register of Historic Places (NRHP). The wooden feature, particularly with the associated thermal features that possibly contain environmental and dietary evidence, qualifies for listing according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), Criteria C (one of the few remaining examples of a type or method of construction), and D (has or is likely to yield information important in prehistory and history). Protection and preservation are recommended, as is test excavation of the site.

5LR12904

Site 5LR12904 was also discovered by the CWP field crew while searching for site 5LR7009, approximately 130m to the east of wickiup 5LR12903. It consists of a cache of lodgepole pine poles resting on the ground surface. The CWP photographed, measured, and GPS-mapped the feature, and an Aboriginal Wooden Feature Component Form was completed. The site size has been recorded as 20m in diameter, including a buffer zone around the wooden feature. A metal detector was utilized to scan the entire site area with negative results.

Site Description

5LR12904 consists of a cache of poles resting parallel to each other on the ground surface; Feature 1. No associated artifacts were found on the site, which is located within Glacier Basin on the valley floor of Glacier Creek, at an elevation of 8800 feet (Figures 23, A-17, and A-2). The site is in a dense lodgepole pine forest in the Montane Life Zone with a sparse understory of forbs and grass. The soil consists of coarsely graded, dark brown alluvial and residual sand and gravels. The ground cover, due to the grasses and pine duff is 100%. Of note is the presence of a 3cm-diameter saw-cut pine limb found resting on the ground surface 2m to the east of the pole cache.

Feature description

Feature 1 is a cache of 17 poles resting parallel to each other on the ground surface with a majority of the tips oriented to the southeast. Notably, the poles are of lodgepole pine, as opposed to the more frequently encountered aspen pole wickiups and other aboriginal wooden features in the Montane Life Zone. The poles range from 2.2 to 5.7m in length and from 4 to 6cm in mid-pole diameter—virtually the same size range as those represented in the nearby 5LR12903 wickiup. Interestingly, two of the poles rest on the ground surface perpendicular to, beneath, and at either end of the others in the cache. These two elements possibly were intentionally placed to raise the remainder of the poles off of the ground to prevent decay.

Although the condition of the wooden structural elements suggests substantial antiquity, differential disintegration rates of wood in specific micro-climates, and on different soil types, makes it difficult to interpret. However, the nature of the wooden elements, and the nearby wickiup that consists of very similar lodgepole pine elements, suggests a Native American affiliation, rather than historic Euro-American.

Evaluation and Management Recommendation

Site 5LR12904 is field evaluated as eligible for placement on the National Register of Historic Places (NRHP). The wooden feature qualifies for listing according to Criteria A (associated with events that have made a significant contribution to the broad pattern of our history—namely the Protohistoric period and the final years of off-reservation Native Americans), and D (has or is likely to yield information important in prehistory and history).

Protection and preservation are recommended, however no further work is proposed by the current project.

NEWLY DISCOVERED EPHEMERAL WOODEN FEATURES
OF HISTORIC OR MODERN CONSTRUCTION
(documented by the CWP but not formally recorded as sites)

Unrecorded historic conical brush spring house: Sprague's Ranch

This wickiup-like feature was first noticed by the CWP crew from a moving vehicle on the second day of the 2011 field season. After regaining control of the vehicle, the astonished crew members found a safe place to pull off in order to investigate what initially appeared to be a classic conical wickiup in an aspen grove at the northeast end of Moraine Park. Upon closer examination it was discovered that the ephemeral shelter was situated on a historic trash scatter that included developed springs with galvanized and ceramic water pipes. The presence of nails, milled lumber fragments, and lengths of steel, galvanized, and ceramic pipe *within* the feature soon alerted the crew to the fact that this was, in fact, an apparent expedient historic "spring house."

In addition to the water pipes, historic trash noted in the area of the feature includes a barrel hoop, metal straps, metal conduit, ceramic sewer pipe, a metal bucket, plate and bottle glass fragments, cinder block, patterned china fragments, wire nails, milled lumber, food cans, and a deteriorated toy rubber rodeo cowboy or cowgirl.

Subsequent interviews with RMNP historians Don and Marilyn Irwin at the nearby Moraine Park Museum alerted the researchers to the fact that this feature is located on the site of the former Sprague's Ranch and Stead's Ranch and Hotel. The following description of the popular ranch, hotel, and associated amenities—including a nine-hole golf course—is from *Estes Park and Colorado National Park Then & Now* (Pickering and Stevanus 2006:208-209). Italics in the following quotes are this author's:

> It began with [a] 24-by-16-foot log cabin with a peat-covered pole roof. Pioneer Abner Sprague erected this homestead close by *a fine spring* on the north lateral moraine of Moraine Park, on which he had filed in May 1875. *That spring, enclosed by the wooden spring house to the left of the homestead cabin…still flows down the hillside*. Other members of the Sprague family—including his father Thomas Sprague, his younger brother Fred, and his sister Arah—also took out claims nearby, totaling 640 acres.
>
> Though the Spragues had come to ranch and farm, they were soon in the tourist business. Thomas Sprague began by adding a series of rough-hewn

log cabins to the ranch, and then built a main lodge containing guest rooms, dining room, and kitchen (a building later expanded to three stories). Other changes and enlargements followed, most of them coming after 1904 when Abner Sprague and wife Alberta exited the tourist business in Moraine Park by selling his holdings to Chicagoan James Stead, who had become a partner two years before. Stead promptly changed the name to "Stead's Ranch." Later it would become "Stead's Ranch and Hotel."

Under Stead's management, the resort complex continued to expand. By1920, in addition to the lodge, there were 27 guest cottages, as well as employee housing, corral and barns, and other outbuildings. In time there would be even more cabins, a swimming pool and bath house, trout pond, tennis courts, an enlarged recreation hall, and a dining room capable of seating 250 guests. There would also be a nine-hole golf course built in the meadows along the Big Thompson, where the Spragues had raised timothy, maintained trout ponds, and grazed their cattle. Stead, a dairyman by profession, kept a herd of Guernsey milk cows, branded with the same letter "S" that adorned the resort's hand-painted white china.

After Stead's death in 1931, his wife Dora enlisted her cousin Myra Lewis and her husband Will to manage the resort. In 1950, the hotel and its 791 acres were sold to Edgar M. Stopher, Alberta Sprague's nephew, for something less than $100,000. Stopher oversaw the resort's final expansion. Upgrading and maintenance, however, became a continuing and expensive proposition and in 1962 Stopher accepted the park's $750,000 purchase offer. The ranch buildings were soon torn down and the site obliterated.

As the spring house is obviously of historic, and possibly even modern, construction, it was considered to be not of importance to the CWP. However, the feature was photographed and mapped with the GPS unit, and notes were taken regarding the nature of the nearby trash and other features (including another developed spring to the west of the spring house). Despite the fact that the historic structures have been demolished, it is recommended that the remaining trash and features be documented as a historic archaeological site of significant import to the history of Rocky Mountain National Park.

Unrecorded modern lean-to and suspended poles near Horseshoe Park

This partially collapsed lean-to was discovered by the CWP crew as they were hiking on the Little Horseshoe Park Trail along the base of the south lateral moraine of the Fall River Glacier—overlooking Horseshoe Park to the north. It consists of approximately 20 short segments of aspen and pine timbers leaned against one side of a longer pole that was, in turn

resting against the trunk of standing fir tree. Two associated timbers were suspended horizontally between the branches of this support tree and another nearby fir.

The feature was photographed and mapped with the GPS unit, however no further efforts were made to document the shelter, which is obviously of modern construction based on the bark remaining on some of the feature elements, and the fresh, un-weathered, nature of several of the broken ends of the timbers.

Unrecorded modern "tipi" near the Glacier Basin Campgrounds

This tipi frame-like feature was noticed by the CWP crew as they drove back and forth on the Bear Lake Road, at the turn-offs to the Glacier Basin campgrounds and the Park and Ride parking lot. It is situated on the east side of the Bear Lake Road, and just to the north of the campground and Park and Ride intersection—quite clearly visible from all of these roads. It consists of 18 lodgepole pine timbers somewhat haphazardly and tentatively propped up against each other and the trunk of a live lodgepole pine support tree (Plate 11, top).

The impetus for interpreting the feature as being of modern fabrication is multifold: at least two of the pole ends are metal ax-cut and at least three others are saw-cut; dry pine needles remain on two of the poles; a modern tobacco pipe stem and metal write-on aluminum specimen tag were found within the feature; and several of the pole ends are inverted—with their butts in the air and tips on the ground. Plus the fact that a feature of this nature, so visible from heavily-travelled roads, would certainly have been documented as a site at some time in the past.

As the "tipi" is fairly obviously of modern, construction, it was considered to be not of importance to the CWP. However, the feature was photographed and mapped with the GPS unit, and notes and measurements were taken.

Unrecorded new "tipi" near Sprague Lake

This tipi frame-like feature was discovered by the CWP crew as they were recording the historic trash scatter at site 5LR7002. It is situated in an established picnic area on the southeast side and 100 meters or more to the north of the exit to the Sprague Lake Bear Lake Road, at the turn-offs to the Glacier Basin campgrounds and the Park and Ride parking lot. It is situated on the east side of the Bear Lake Road, and just to the north of the campground and Park and Ride intersection—quite clearly visible from all of these roads. It consists of approximately 13 lodgepole pine timbers quite efficiently and resourcefully propped up against each other and the trunk and branches of a live lodgepole pine tree (Plate 11, bottom). A single forked timber was erected alongside of the support tree with a second pole rested into this fork. All of the other

elements were subsequently leaned against this tripod of elements (including the live lodgepole).

While the crew was examining the feature they were approached by a Melissa Stearns of Denver who informed them that she "comes to this same picnic ground every Fourth of July" (the date that the crew was at the site), and that "this tipi was not here at this time last year." Even without Ms. Stearns' testimony, it is quite obvious that the feature is of very recent construction—substantial amounts of bark remain on some of the poles and ax-cut wood chips still rested on the ground surface at the base of one of the poles.

The feature was photographed and mapped with the GPS unit, however no further efforts were made to document the "tipi poles." The discussion of this feature and the other modern examples are included in this report in order to demonstrate the obvious: modern visitors to Rocky Mountain National Park continue to construct new expedient conical wooden features in the manner of wickiups and tipi frames, and to alter pre-existing structures such as those at sites 5LR4531 and 5LR10229. It can be assumed that similar "Boy Scout" shelters and play houses have been made for decades. For this reason, it is sometimes difficult to estimate the age and cultural affiliation of the ephemeral features in the Park, and caution should be used when attempting such.

PART III: DISCUSSION AND SYNTHESIS

Description and Interpretation of Findings

As a continuation of the previous six years of research and data collection, Phase VII of the Colorado Wickiup Project has served to elucidate the final decades of the sovereign Ute occupation of Colorado. As with previous work by the CWP, this phase of our studies has given rise to new understandings and insights regarding the continued occupation, or reoccupation, of traditional homelands by the Northern Ute peoples—the White River (Yampa and Grand Valley or Parusanuch), Uncompahgre or Tabeguache, and Uintah bands—during the Late Contact Post-Removal and Recent Contact Phases, and after the removal of a majority of their tribal members to the Uintah and Ouray reservations in northern Utah in 1881, or 1882 in the case of many of the northern White River band (Steve Baker, personal communication and Baker, Carrillo, and Spath 2007).

In addition, however, this phase of the project has afforded the CWP the opportunity to investigate the under-documented Protohistoric and early Historic evidence of the Ute and other Native American groups on the eastern slope of the Rocky Mountains, including the Arapahos, Shoshones, Cheyennes, Comanches, Kiowas, and Dismal River Apaches. Clark (1999:334), in her review of the Protohistoric in northeastern Colorado states that "the entire period [within the Platte River Basin] is a data gap."

As in previous years, the CWP's seventh year of field research has proven to be not only highly productive in terms of additions to the database relating to the aboriginal wooden features of the state, but also new insights have been gained into the nature and variety of these structures and the utilization of the landscape by the indigenous peoples who produced them.

One of the unexpected results of the field work in Rocky Mountain National Park is in regards to the significant number of newly discovered—previously unrecorded—wooden feature sites that were encountered. Considering that reconnaissance for new resources was not one of the stated goals of the project, and what little terrain was actually examined in the field, it is notable that seven new wooden feature sites of apparent Native American affiliation were discovered, and documented, while in the process of searching for only 23 previously recorded sites. This, along with the fact that only a fraction of the Park has been surveyed for archaeology—and that, mainly in the high-activity areas near the town of Estes Park—suggests that numerous such resources remain undiscovered within RMNP.

Marked differences between the results of the CWP investigations within the Montane Life Zone of Rocky Mountain National Park and those in the Upper Sonoran piñon/juniper environment of western Colorado were documented. New classes of wooden features were recorded—bark-peeled ponderosa pine trees, boulder lean-tos, and an animal entrapment—and significant differences were noted in such factors as the average number of features per site, the average number of poles per feature, pole length and interior head room, the rigorous adherence

to a specific species for pole selection, the ratio of pole caches to wickiups, and the striking lack of portable artifacts found during Phase VII.

Concepts discussed in earlier volumes of the CWP included our approaches to validating the cultural origins of wooden features, potential dating methods, and the attendant problems associated with each (such as the ineffectiveness of using dead-collected old wood for radiocarbon or dendrochronological dating on sites this recent in the archaeological record), and the inferred functions of aboriginal wooden features. These topics will not be reiterated here, but rather the reader is referred to these previous documents. Specific to wickiup research in north central Colorado, Clark (1999: 323) points out that "historic documentation clearly indicates that wickiups were an important part of Ute material culture (Baker 1998). However, like projectile points, they are not a clear cultural marker. Ethnographic evidence indicates that wickiups were utilized by a number of other groups, notably Apache and Shoshone (Kidwell 1969)." The problem of ethnic and temporal association for these features also includes the difficulty of ruling out historic, and even recent, Euro-American affiliation to many of the features, as discussed below in the section regarding lean-tos.

Interestingly, Clark does not mention the Arapahos in regards to wickiups—possibly due to the fact that this group arrived relatively late into the area, after the acquisition of the horse. William Butler, former RMNP Archaeologist states that they "arrived in Colorado about 1800" (Toll 1962:45). By the time that the mobile Plains groups had acquired horses, hide or canvas tipis were common, however it is unlikely that expedient timber shelters were not also made, even after the invention of the more labor-intensive tipi, which was designed to be dismantled and packed with the group to the next camping site.

Notably, Toll (1962:36) states that the Arapaho "always faced their tents [entryways] to the east," a common practice among tipi-dwellers of the Plains. He, based on eye-witness and his interviews with Arapaho elders about life in the area in the 19th Century, describes numerous stone tipi rings, excavated hollows marking the former location of tipis, hearths in the center of the "tents," 12 to 16-foot wide circular summer tents, small 2-foot wide "tents" for dogs, etc., however no mention is made of wickiups. His report documenting a two-week pack trip through the area that is now Rocky Mountain National Park in 1914 with Gun Griswold and Sherman Sage, two Arapaho elders, relates tales almost exclusively about the Arapaho and Ute presence in the area, with virtually no mention of other Native groups. Again, however, the interviews with Griswold and Sage pertain to the 1800s and early 1900s, rather than earlier Prehistoric times.

Thorough discussions of Numic settlement patterns, site selection, site structure, intra-site spatial analysis, and seasonality of Protohistoric and early Historic Native American sites were presented in the Phase V report (Martin and Brown 2010a), as well as earlier volumes of the project, and will not be reproduced here except to note that Estes Park, along with other major mountain parks of Colorado such as North Park and South Park, although primarily summer destinations prehistorically, are considered to have been utilized in the winter as well (Toll 1962).

Regarding the absolute dating of aboriginal features, thermoluminescent analysis of ceramic sherds and dendrochronological analysis of structural elements and source-trees has proven highly informative throughout all previous phases of the project when sampling is limited to metal ax-cut specimens. During Phases III through VI, 51 tree-ring dates ranging from AD1795++B to AD1915 GB comp were produced that appear to be directly associated with the Numic occupations (see Table C-1 in Martin and Brown 2010 and Table C-1 in Martin, Brown, and Lindstrom 2011). It is of note that just over half of the sites (8 out of 15) with evidence of trade goods that have produced tree-ring dates, were occupied during post-"removal" times; after the fall of 1881.

Upon acquisition of iron and steel hatchets and axes, Protohistoric peoples greatly increased their use of live-cut trees and branches, whereas prior to this innovation a majority of their wickiup and tree platform timbers were collected as dead wood—resulting in tree-ring dates that reflect only the time of death of the wood, not the year of cultural use. This old wood discrepancy has been demonstrated to potentially be as large as 300 years or more for architectural elements (Baker and Towner 2007 and 2008), a serious deviation when dealing with sites typically less than 200 years of age.

Unfortunately, the research in Rocky Mountain National Park failed to produce additional ax-cut tree-ring samples from potentially aboriginal contexts. Although *saw*-cut timbers were noted on several sites, as discussed in the site descriptions, without additional evidence to suggest that they are affiliated with aboriginal occupations, they are being considered to be of Euro-American association. A total of 17 tree-ring samples were collected during Phase VII (Table 2). Several of these are from feature elements that consist of beaver-cut aspen saplings that were collected and used in the construction of wickiups. Although it was the hope of the researchers that dating results from these presumably live-cut trees would provide at least *terminus post quem* dates regarding the age of the features, preliminary results have been disappointing. Of the three samples that were submitted to the Laboratory of Tree-ring Research in Phoenix (from 5LR4499, 5LR4513, and 5LR12900), none produced dates. However, Ron Towner of that facility remains optimistic about the potential of aspen wood to produce dating results.

Table 2 : Dendrochronology Sample List for Phase VII of the CWP: Rocky Mountain National Park
(* denotes sample processed by the Laboratory of Tree-Ring Research)

FS#	Site #	Feature	Description
1	5LR4460	Near Feature B	Deadfall ax-cut aspen (?) tree
2	5LR4460	Near Feature A	Standing ax-cut aspen stump
3	5LR4460	Near Feature B	Collapsed ax-cut aspen or conifer stump
4	5LR4460	Near Feature B	Collapsed ax-cut conifer tree trunk
5	5LR12635	Feature 1	Core from within ax-cut ponderosa bark peel

FS#	Site #	Feature	Description
6	5LR12635	Feature 1	Core through bark below ax-cut ponderosa bark peel
7	5LR4499	Feature 1	*Beaver-cut aspen feature pole
8	5LR4499	Feature 1	Beaver-cut aspen feature pole
9	5LR4531	Feature 2	Apparent feature pole from dismantled Feature 1
10	5LR4531	Feature 2	Apparent feature pole from dismantled Feature 1
14	Temp "I"	Modern "wickiup"	Large fallen lodgepole pine support tree
15	Temp "I"	Modern "wickiup"	*Saw*-cut lodgepole pine feature element
16	Temp "I"	Modern "wickiup"	*Saw*-cut lodgepole pine feature element
17	5LR4548	Feature 1	*Saw*-cut aspen feature element
18	5LR4548	Feature 1	*Saw*-cut limb from juniper canopy tree
19	5LR4513	Feature 1	**Tip* of ax-cut conifer feature element
20	5LR12900	Feature 1	*Dead-standing lodgepole growing within wickiup

A number of concerns and limitations listed by Clark (1999:333) in regards to Protohistoric research in the Platter River basin are in the process of being addressed by the findings of the Colorado Wickiup Project. One of her conclusions is that "archaeologists are…hampered by the difficulty of obtaining accurate absolute dates and the lack of truly diagnostic artifacts." Although the lack of datable tree-rings and similar paucity of trade goods from the Phase VII field work in RMNP offers nothing to address this shortcoming in the mountains of north central Colorado, these statements can be said no longer be a serious problem on the western slope.

In her discussion of diagnostic artifacts for the Protohistoric peoples of the area, such as lithic projectile points and traditional ceramics, Clark (ibid) fails to mention historic trade wares as a source of information. Again, one of the most significant contributions of the on-going Wickiup Project is the growing database of accurately and tightly dated temporally-sensitive trade artifacts that is being produced as a result of their association with tree-ring dated wooden features. Likely, the two most notable of such artifact categories being documented by the CWP are glass seed beads and metal projectile points. A history and analysis of both European-manufactured drawn glass seed beads and metal projectile points was presented in the Phase V Colorado Wickiup Project report (Martin and Brown 2010a) and will not be repeated here. Regarding beads, suffice it to say that the tiny seed beads, imported from European manufacturers, underwent stylistic changes, particularly in terms of size, during the time period represented by the Protohistoric and early Historic Native American sites in the American west.

Once again, the Phase VII activities produced additional refinements to the field methodology and analytical understanding of ephemeral aboriginal wooden feature sites. In response to these findings, field techniques and recording protocols were again refined and the

Aboriginal Wooden Feature Component Form has been adapted to facilitate the recording of these new data types in the future:

- In Line Item 18, although the species of wood represented in the feature's elements already included "aspen" and "lodgepole" pine as category options, as a result of our work above 8,000 feet elevation we have added a category for "undetermined evergreen."
- A new Item was added (Item #51) entitled "Changes since last recording" as a result of at least two features documented at RMNP that had been partially or completely dismantled and/or reconstructed since their initial site forms and photographs had been created. This line item can also be utilized for recording changes due to natural causes.
- In what had been Item 51, and has now been bumped down to become Item 52 ("Imminent Threats to Feature"), although category options had previously included "Ips beetle (*piñon support?*)", the newly edited form now reads "Beetle kill (*piñon or pine support/canopy?*), and a new category for "Wildlife (deer/elk beds, etc.)" was added.

Newly Documented Feature Types

Bark-peeled ponderosa pine trees

In a discussion of artifacts and culture traits that are considered as being diagnostic of the Ute, Clark (1999) describes scarred trees as evidence of where the inner bark or cambium had been extracted as a source of food, medicine, and flavoring for cooking meat. Although Clark does not mention tree species in her discussion, these features are typically, but not exclusively, found on ponderosa pines in Colorado. The outer bark as well has been documented as a building material for baskets, trays, and cradle boards. Dendrochronological dating of these scars appears to indicate that a majority of them date to the first half of the 19th Century (Martorano 1981). Clark maintains that the Ute and Shoshone are the only ethnographically documented Native groups to have utilized bark in this manner, at least in the mountains of Colorado. A group of Arapaho elders were shown a peeled ponderosa near Estes Park and none of them could recall hearing about members of their tribe ever using bark in that manner (Butler 1997).

Two such features, both on ponderosa trees, were recorded during the Phase VII investigations in RMNP; at sites 5LR6962—in association with a cultural pole cache, and 5LR12635—a newly discovered isolated bark peel. Although the CWP has documented several culturally modified piñon and juniper trees on wooden feature sites in the western portion of the state, and has revisited previously recorded ponderosa peels, these are the first ponderosa peels to be formally reported by the project.

Boulder lean-tos

Three of the features documented during Phase VII have been categorized as "boulder lean-tos." These are found on previously recorded sites 5LR4460, 5LR4514, and 5LR4531. By definition, these are one-sided timber shelters that have been constructed against vertical faces of large boulders or rock outcrops—which, in turn, serve as the opposing walls of the shelters (see Plate 6).

Although the CWP has documented one-sided lean-tos on Protohistoric Ute sites, none utilize rock as a supporting element. Structure 13 at the Decker Big Tank Wickiup Village (5ME469), consists of a "classic" one-sided lean-to (Martin, Brown, and Lindstrom 2011). A similar, yet much more rudimentary, feature was recorded at 5RB18, the Two Tall Pole Wickiup Village, as Feature 10 (Martin and Ott 2009). Also, although quite possibly of more recent, non-Native construction, the structure at ancillary site 5DT1538 is another example of a one-sided shelter sustained by a horizontal support element—a unique feature that incorporates a conical wickiup at one end of the lean-to (ibid.).

Lean-tos are particularly problematic in regards to their cultural and temporal affiliation. Although a commonly-recorded structure type in historic Euro-American contexts, and a popular and expedient form of shelter frequently described in wilderness survival manuals, they are exceedingly rare on aboriginal sites. However, based on the findings cited above, it is impossible to dismiss them outright as being of non-Native construction. Unfortunately, the lack of ax-cut wooden elements or other diagnostic artifacts at these sites make them difficult to accurately date, and, even if they could be dated, it still would remain problematic to assign ethnic association (unless the dating results indicated an occupation prior to the arrival of Euro-Americans in the area, or after the final departure of the last Native populations from the landscape). The findings at 5LR4460 provide an illustration of this dilemma, where iron fencing staples, bottle glass including a 1950s-1960s era soda pop bottle, and a lithic biface fragment were all found on the site surface.

Animal entrapment

Again, although documented in the literature for aboriginal sites throughout the west, and within Rocky Mountain National Park in the form of boulder-alignment game drives (Benedict 1996), Feature 1 at site 5LR4548 is the first animal entrapment feature thus far recorded by the project. It consists of a V-shaped, wing-wall funnel or "cubby set" constructed by two converging walls of horizontally-stacked rails. Although known from archaeological, ethnographic, and historical records, the feature type is unique in the experience of the CWP.

Feature 1 was originally recorded as a lean-to or wickiup, however, it is quite evident that its purpose was to direct animals into the area between the walls in search of a baited trap (leg trap or possible snare). The bait, and possibly a snare, could have been suspended from the limbs of the juniper tree that was obviously intentionally incorporated into the interior of the apex of the trap walls at the east end. A series of eight or more small twigs have been laid

horizontally across the top of the side walls to form a section of "roof" near the west end of the entrapment, again presumably to aid in directing game animals to a position where they will be forced to step into a leg trap or snare.

Contrasts Between High Elevation Wooden Feature Sites and Piñon/Juniper Habitat Sites

Within a few days of the beginning of the Phase VII field work in Rocky Mountain National Park, the field crew began to use the phrase "it's a whole different pile of sticks up here!" A number of factors were quickly recognized as being in contrast to our findings in the piñon/juniper habitat of western Colorado, and others became more obvious as we quantified and tabulated the data during the write-up activities in the lab after the completion of the field work. CWP researchers had anticipated some of the dissimilarities, based on our studies of the limited research that had been previously conducted on high elevation aboriginal wooden feature sites, and on our firsthand experience with two sites documented within the Montane Life Zone elsewhere in the state—5SH3788 and 5ME14071—in Saguache and Mesa Counties respectively. However, other anomalies, such as the total lack of associated portable artifacts, were quite unexpected.

As a majority of the differences noted between the resources are quite likely due to factors relating to elevation and vegetation zone variance, rather than culturally-determined factors, the project's two previously recorded high elevation sites have been factored in with the RMNP resources in the following comparisons. In other words, the discussions that follow reflect the contrasts between sites in the "Foothills" piñon/juniper habitat—between approximately 6000 and 8000 feet elevation—and the Montane aspen/fir/spruce/pine habitat—between approximately 8000 and 10,000 feet elevation—rather than a geographically-based Front Range/West Slope comparison.

Again, as stated elsewhere in this report, a majority of all of the CWP's wooden features are considered to be of Ute affiliation. Without additional evidence to suggest differences in culture-group association between one assemblage of sites and another—Shoshonean versus Ute sherds, or Plains-related versus Numic rock art for instance—it remains impossible at this point in our research to determine ethnic diversity in the nature of the wickiups and other wooden features. Such a determination will likely involve additional work beyond the boundaries of the state of Colorado.

The two previously documented supplementary high elevation sites to be pooled with the Phase VII resources are 5SH3788 and 5ME14071. The former site, in Saguache County of south central Colorado, referred to as the Musick Lodge site, consists of a large, 93-pole, freestanding conical "lodge", two utility racks, and an apparently associated stone eagle trap (Martin, Brown, and Lindstrom 2011). Of the 137 total cultural wooden elements represented in the features, 106 have been identified as aspen, and the remaining 31 as "undetermined conifer." The wooden features are at an elevation of 9520 feet, the highest site thus documented by the CWP.

The other site, 5ME14071, on the Uncompahgre Plateau in Mesa County, west central Colorado, is known as the Singing Wickiup Site (Martin, Ott, and Darnell 2006). It consists of three aspen-pole wickiups and an aspen-pole tree platform (of possibly modern construction). A total of 111 wooden elements are represented in the features, which are situated at an elevation of 8440.

Average number of features per site

Prior to the Phase VII work in RMNP in 2010 and 2011, the wooden feature sites recorded by the Colorado Wickiup Project ranged from a single wickiup or tree platform to the Rader's Wickiup Village that contains 42 wooden features and the Rifle Wickiup Village which contains 80. Site totals *within the piñon/juniper habitat* for the project *through Phase VI* show that 363 features were recorded on 57 sites (Table 3). This converts to an average of 6.4 features per site. Even if the two large aforementioned villages are eliminated from the population, the average stands at 4.4 features per site. A total of 206 (57%) of these features are wickiups and other types of expedient shelter (tipi frames, lean-tos, ramadas, and wall tents).

The 19 potentially aboriginal sites discussed herein for Phase VII (incorporating site 5LR4500 into 5LR4509 as a single site), plus the two high-elevation sites from previous phases of the project (for a total of 21 resources) contain a total of 43 features, or 2.0 features per site—less than one-third as many as the average from the piñon/juniper environment. Only 20 of these are shelters (47%). Above 8000 feet 12 of the 19 sites (63%) consist of a single feature—wickiups, lean-tos, bark-peeled trees, or pole caches. In the piñon/juniper, 28 of 59 (47%) are isolated features.

It is suggested by the CWP that the lower percentage of wickiups, and wooden features in general, at high elevation sites is due to the perception that prehistoric hunter/gatherers spent fewer months at high elevations than they did in the lower piñon/juniper and transition zones, were more dispersed and traveled in smaller groups, and likely maintained a more mobile existence during the mountain summers. Another factor regarding the lower number of wickiups is possibly reflected in the higher ratio of pole caches above 8000 feet—potentially representing, at least in part, dismantled wickiups.

Average number of wooden elements per feature, length of poles, and height of interior headroom of wickiups

In the piñon/juniper forest sites, a total of 2216 wooden elements are represented in the 363 features—an average of 6.1 elements per feature. In the Montane Zone, however, this average climbs to 47 elements per feature (21 features containing 988 elements).

Perhaps more pertinent to our studies, when one looks specifically at wickiups and other conical shelter frames, this contrast is equally as striking. In piñon/juniper shelters the average number of poles is 9.4 per wickiup (not including site 5GF308, the Rifle Wickiup Village, for

which data is incomplete). In the Montane Zone the average is 41.5 per wickiup (705 poles in 17 wickiups/lodges)—nearly 4.5 times more per structure.

Without further analysis, and perhaps consultation with living members of the Ute and other tribes, it is only possible to speculate as to the reasons for this significant discrepancy. The principal author of this report presented several hypotheses regarding this inconsistency in his discussion of Feature 1 at the Musick Lodge site (5SH3788) in Saguache County, which is at an elevation of 9520 feet and consists of approximately 93 (primarily aspen) poles in the framework alone. This discussion is presented here in its entirety (Martin, Brown, and Lindstrom 2011:110-111):

> There is quite apparently a tendency for high elevation…"lodges" to be taller, and to have been constructed with significantly more poles than the wickiups found in the Upper Sonoran piñon/juniper habitat at lower elevations. The high-elevation structures' poles also tend to be placed adjacent to each other, rather than spaced at intervals as in piñon and juniper pole wickiups.
>
> The greater height [and interior headroom] of the Montane/Subalpine shelters is easily explained by the readily-available dead-standing, long, straight aspen, fir, spruce, and pine trunks in the forests in which they are found, as opposed to the shorter, bulkier, and less-straight piñon and juniper elements. Similarly, one of the possible reasons that aspen appears to be the species of choice for shelter poles at these elevations is based on how relatively easy it is to uproot the dead standing trunks of these trees (or break them off at ground level).
>
> Two potential explanations for the high pole count phenomena both pertain to the climatic differences between the piñon/juniper and the subalpine habitats: temperature and snowfall. Needless to say, closely-spaced poles, particularly if covered with brush, bark, hides, or canvas, will provide a more effective barrier against wind, cold, and precipitation than a widely-spaced framework—presumably of more importance at high elevations. The presence of bark and twigs lining the exterior bases of both of the "lodges" discussed above also further suggests that protection from the cold was a matter of concern.
>
> However, a comparison of the average low *summer* temperatures in the mountains of Colorado (presumably the season represented by a majority of Native American sites at those elevations) with those at lower elevations (in the zone generally accepted for *winter* occupations for the Ute and other prehistoric mobile hunting and gathering peoples), one finds that this hypothesis does not hold up. Average July lows in Telluride, Dillon, Leadville, and Wolf Creek Pass (between 8,745 feet and 10,850 feet) range

from 39°F to 41°F. Average January lows in Craig, Cortez, Meeker, Durango, and Pagosa Springs (between 6,185 feet and 7,079 feet) range from 2°F to 12°F (information courtesy of the Colorado Climate Center, Colorado State University, Ft. Collins). In other words, there actually exists a notably greater need for efficient shelter from the elements in the winter occupation areas of the state (piñon/juniper habitat) than at the high elevation summer areas.

Regarding snowfall, a replicative experiment by the principal author of this report demonstrated that, even without a covering of any type, a conical framework constructed of straight, closely-spaced aspen and evergreen poles succeeded in keeping nearly all snow from reaching the ground within the shelter. Similar to the consideration of temperature, however, it remains unclear as to whether this would have been a determining factor: summer snowfall amounts in the mountains are not significantly greater than winter amounts in the piñon/juniper forests below during the winter months.

Another option as to a potential benefit for having a shelter's poles placed closely together is suggested by Matthews' (1877) in his description of a Hidatsa conical "hunting lodge" in which the poles had been leaned against one another "so closely as to render [the shelter] bullet proof." Closely-spaced poles would also make it easier to conceal an interior fire from the eyes of unwanted company, but, again, this was also a concern at lower elevations.

Considerations such as the amount of protection afforded by multi-poled structures against potential threats and annoyances such as bears and mosquitoes in the mountains versus bears and gnats in the canyon/plateau country appear to be of little or no relevance. Therefore, at this time, it remains the belief of these authors that the major factor contributing to the higher pole counts in the pine/spruce/fir/aspen habitat is simply the more readily available and more easily collected supply of dead, straight, standing tree trunks.

An additional consideration for this phenomena has been suggested by one of the CWP crew members, Holly Shelton (personal communication), and that is simply the notably greater amount of precipitation at higher elevations, both as snow and rain. The presumed increase in protection from rain, and melting snow cover, is possibly a major factor in the choice to use more closely-spaced poles in conical shelter production in the Montane Zone than in the significantly drier climes of the Upper Sonoran.

Despite the long, straight poles present in several of the Phase VII conical structures and pole caches, only two of the RMNP features appear to fit the definition of "tipi frame" as used

by the CWP: built with the intention of dismantling and carrying away the entire framework and covering whenever the owners moved to a different location, as opposed to wickiup frames. The term wickiup, herein, refers to expedient (advantageous and opportunistic), ephemeral (transient or temporary), quickly-constructed, typically conical, stick shelters—ones that are intended to be left behind when the occupants move to a new location. It is fairly apparent that, with or without outer coverings, none of the structures recorded during this phase were intended to be gathered up and moved by the architects, with the possible exception of the two aforementioned features.

These two sites, 5LR12903—a collapsed freestanding style wickiup, and 5LR12904—a pole cache, are situated approximately 135 meters from each other and they are the only two features ever recorded by the CWP that are entirely constructed of conifer elements—in this case, lodgepole pine. The range of pole lengths for the two features is 2.9 to 5.7m in the wickiup, and 2.2 to 5.7m in the pole cache. The mid-pole diameter range is 3 to 6cm in the former and 4 to 6cm in the latter—somewhat narrower than their aspen pole counterparts. It is possible that these two features represent tipi-frame poles rather than wickiups.

Species-specific pole selection

Along this same line of inquiry, it is interesting to note the extent to which the architects of Montane Zone wickiups selected aspen saplings as their species of choice for shelter construction. Eliminating all features other than conical shelters from the equation, in the CWP wickiups above 8000 feet in elevation, 573 of the 705 structural poles represented are aspen (81%); the remaining 132 elements being conifer. If the identified species of the pole caches from RMNP are included—all of which are presumed to have been collected as wickiup poles—this ratio remains at 81% (656 out of 805 total poles).

Of the 27 high elevation wickiups and pole caches, 20 are completely made up of aspen poles, three are primarily aspen, one is primarily of conifer, and the remaining two consist completely of lodgepole pine elements—sites 5LR12903 and 5LR12904 as discussed above.

Similarly, in piñon/juniper forests, 94% of the poles recorded during the last two phases of the CWP have been identified as juniper as opposed to piñon. Unfortunately, 2146 of the wooden elements from the dataset of the earlier phases had to be combined as "unidentified piñon/juniper" when it became evident that the field crews had been misidentifying a significant percentage of the piñon elements as "juniper" based on their outward appearance. This discovery led to the inclusion of a warning on the Aboriginal Wooden Feature Component form that reads: "*caution—old dead piñon often looks like juniper"*.

Ratio of pole caches to wickiups

Another discrepancy that became clear during the field work at RMNP was the significant number of features that were interpreted as caches of cultural poles. Ten of the 36 features (28%) documented during Phase VII have been tabulated as such, and an additional

two features that have been recorded as wickiups are considered to possibly be pole caches. This compares to only 11 pole caches out of the entire database of 370 features (3%) documented in the first six phases of the project.

Several factors are possibly involved in this notable incongruity. A grouping of long, straight, narrow cultural poles such as those found in an aspen/evergreen environment are potentially more easily recognized as being of human origin, than a similar concentration of more amorphous piñon or juniper poles, however the CWP crew members feel that the likelihood of this being a significant contribution to the discrepancy is negligible. It appears more likely that, as discussed earlier in regards to the high number of poles represented in high-elevation wickiups, that the ease of obtaining suitable aspen wickiup poles, and the need to gather a larger number for each shelter, compared to ones of piñon or juniper, possibly results in a higher number of "extras" that never got used during the construction of the wickiup(s). Quite simply, when a family group sets about collecting "50 or 80" poles for that night's shelter, a large number are quickly gathered, some of which remain unused when an architect determines that a wickiup is complete.

However, other cultural differences are possibly at play; perhaps a propensity to dismantle wickiups and stack the poles against a tree for future use upon return to a favored camping place, or concealing the location of a site from other groups of humans as evidenced by the fact that three of the pole caches were intentionally laid upon the ground surface as opposed to being leaned against standing trees where they are more visible. One of these, Feature 5B at site 5LR4509, was actually cached beneath the low overhanging boughs of a spruce tree.

Lack of portable artifacts

Perhaps the most surprising aspect of the Phase VII field work is the complete lack of Protohistoric and early Historic trade ware artifacts on the sites in Rocky Mountain National Park. It is implicit that the denser vegetation and organic duff in fir, spruce, and pine forests masks more of the surface artifacts on a site compared to the lesser ground cover in the sparsely vegetated piñon/juniper habitat, however, in regards to metal detecting, which is not affected by ground cover, the results would be expected to be similar, all other factors remaining the same.

With the exception of a utilized chert flake (at 5LR4509), two bifaces (5LR4460), a mano and a possible rubbing stone (5LR4531), and a number of modern artifacts such as bottle glass, fence staples, beer cans, aluminum foil, and the remains of a recently-deposited human cremation, no other specimens were noted on the sites during the Phase VII field work.

Trade goods, mostly metal, or evidence of their existence, has been found on 54% of the sites in the Upper Sonoran environment (31 of 57), whereas only slight evidence of such was discovered at two of the 21 sites above 8000 feet—either within RMNP or at the other two sites from previous CMP investigations. This evidence consisted, in both cases, of an ax or knife-whittled stick at 5LR4509 and at 5LR10229. Saw-cut wooden elements or nearby tree limb

stubs were noted on two other sites, 5LR4548 and 5ME14071, however, without additional evidence to suggest that they are affiliated with aboriginal occupations, they are considered to be of Euro-American association—either historic or modern.

No cultural explanations can be postulated as to why the Protohistoric Utes of western Colorado would leave behind hundreds of metal artifacts and waste products such as can fragments and lead sprue, whereas those on the Front Range would leave none, *if* such items were present among the possessions of the groups represented at the sites. One suggestion, of course, is that the high elevation sites represent *prehistoric* occupations—prior to the acquisition of trade goods—an unlikely scenario based on the condition of the wooden elements in the features. Similarly, it is improbable, yet conceivable, that all of the metal artifacts would have completely disintegrated within 150 to 200 years.

One possible suggestion regarding this discrepancy would be that, as the Colorado Wickiup Project has demonstrated, the Utes are known to have lived a sovereign "Protohistoric" life style on the landscape in west central and northwest Colorado into the first two decades of the Twentieth Century. Whereas, in the Platte River Basin, including the foothills and mountains of the Front Range, the Protohistoric period is stated to have ended with the "permanent settlement by literate peoples" at around 1860 (Clark 1999:309). Needless to say, the earlier that Native peoples were removed from the landscape and placed on reservations, the fewer the number of years that would have been available for leaving historic "trade" artifacts behind to be found by archaeologists in the future.

Shortly after the establishment of the first mining camps in 1859, white settlement of Colorado's eastern slope commenced in earnest and "previously absent pressures on the land base and political autonomy of the Utes increased rapidly" (Baker et al 2007:72-73). By the Treaty of 1868, the Utes agreed to confine themselves within the western portion of Colorado (Decker 2004). The hostility against the Utes grew increasingly robust and geographically widespread as miners and settlers moved deeper into the Rocky Mountains, and onto the western slope. This, and the U. S. government's series of reductions in the size of the official Ute Territory and subsequent reservations, resulted in the inevitable constriction of the free roaming Ute first to the western half of the state, and then increasing so into west central and northwest Colorado (where a majority of the Colorado Wickiup Project's historic artifacts have been found).

> "During the 1860s and 1870s substantial groups of Utes…were moving out onto the Plains to hunt buffalo, raid other Indians, and steal horses, usually in the fall months. They would…then hustle back to the Western Slope with their meat and booty before the mountain passes snowed shut and provided them with a protective fortress. These forays to the Plains ended abruptly in the 1870s as more and more whites poured into eastern Colorado and the agents sought to keep the Utes and whites apart to avoid hostilities. The hostile white presence made continued travel to the East Slope dangerous" (ibid:77).

Brunswig, Diggs, and Montgomery (2009:3) agree that "historic records referencing Native American groups in…the RMNP region…first appeared in the late 18th and early 19th centuries and largely ceased with tribal peoples' removal to reservations by the late 1870s."

The reader should keep in mind, however, that the date for the "final removal" of the Ute in the western part of the state has long been accepted as "1881"—obviously preceding archaeological reality by nearly 30 years, and possibly more. It can be assumed that Utes and other groups of Native Americans also remained in the mountains, in substantially reduced numbers, for some time after their government-mandated "removal" had taken place. It is of note that "by the late 1870s the Eastern Ute were among the last free roaming Native Americans in the United States" (ibid:74). As demonstrated by the results of the CWP's tree-ring studies, some of their population appear to have maintained this status clear into the early decades of the Twentieth Century.

Interpretation of Quantifiable Aspects of the Colorado Wickiup Project (Tables 3 – 5)

With the completion of Phase VII, the Colorado Wickiup Project (including ancillary studies) has documented in detail a total of 78 aboriginal wooden feature sites and 406 individual features. A summary of various quantifiable aspects of the data from all phases of the project is presented in Tables 3, 4, and 5. Table 3 presents data regarding feature types, artifactual hallmarks, and chronometric information; Table 4 displays species-specific information regarding feature elements and support/canopy trees; and Table 5 provides selected aspects of interest regarding wickiups and other types of shelters. The category of data on Table 3 previously called "corrals, pens, fences" has been expanded to read "animal control: corrals, pens, fences, traps." Also, the presence of stone fire rings on site has been moved from Table 3 to Table 5.

As in the past, whenever a range of possible cultural poles or beams was recorded (e.g.: "9 to 11 poles"), the larger number was used. The number and species of tree branches that were utilized in the construction of brush fences and the larger corrals or animal pens do not appear in the totals. The same is true for the non-structural wood recorded as firewood piles and culturally modified trees.

Several observations are apparent, and of particular interest, from the data in Tables 3 and 4. Of the 406 features, 225 (55%) are shelters—including five lean-tos, two ramadas, two wall tents, and eight structures listed as "possible tipi frames." Of these, 216 (53% of the total number of features) are wickiups and possible tipi frames. Two-thirds (67%) of the wickiups/tipis are categorized as leaners and "pull-downs" (supported by standing trees) rather than freestanding. Taking into consideration the variety of factors outlined in Phase III (Martin, Ott, and Darnell 2006), primarily the additional reinforcement offered by support trees that forestall collapse and accelerated decay, it remains the contention of the CWP that freestanding wickiups may have originally been as prevalent as leaner wickiups on Ute sites, perhaps even more so.

Within the piñon/juniper habitat, the dominant use of juniper wood rather than piñon for the structure poles (94%), and for juniper trees as feature support/canopy trees (88%) continues to be indisputable.

In the Montane Zone, aspen is the obvious wood of choice for elements compared with conifers/evergreens (85%). An additional 69 poles in the Montane that are listed as "undetermined conifer/deciduous" were not taken into account in this tabulation. In these high elevation sites, however, it is more difficult to interpret the significance of the species of support or canopy tree, for, as discussed elsewhere, much of the former aspen growth has been replaced with conifer forest.

Thirty-three of the 78 sites (42%) have either produced post-contact trade goods or evidence of such in the form of metal-ax scars on wooden elements, and eight of the 15 sites (53%) that have produced tree-ring dates, demonstrate post-"removal", "Reservation Period" occupation (after the fall of 1881). It is surmised that even more of the sites date to post-contact times based on the overall condition of the feature wood and the assumption that a percentage of post-contact sites simply have not yet produced evidence of trade wares. Similarly, it can be assumed that a higher percentage of the tree-ring dated sites are post-1881, but cannot be demonstrated as such due to the absence of an unknown number of outer rings on the dendrochronological samples due to natural or cultural attrition.

The aspects of wickiups and other forms of human shelter (tipis, lean-tos, ramadas, and wall tents) presented in Table 5 substantiate and quantify several of the Project's previous assertions that Numic peoples were much more opportunistic and practical, and less rigid and ritualistic, regarding the design and construction of their shelters than has been previously suggested in the literature by Sanfilippo (1998) and others, especially when compared with structures such as Navajo hogans and sweatlodges and Plains tipis. Entryways, when discernible, have been found to be oriented virtually in every compass direction. The number of exterior versus interior hearths is roughly equal—39 versus 37—however, as explained elsewhere, the ratio of interior hearths is likely overstated due to the practice of trowel testing the floor areas of the features more often than the exteriors. Similarly, no evidence has yet come to light that the precise location of these hearths in relation to entryways or the structures themselves is socially prescribed. Obviously many of the shelters, especially those that have at least partially collapsed, do not retain evidence of some or all of these aspects of construction and design.

The mean average floor size of all documented shelters is 5.04 square meters; however notably smaller for the high elevation features at 4.10m². Five of the shelters in the P/J environment stand out as having significantly large interior areas of 10.2 square meters or more: 5GF308 Feature 3 (12.5m²), 5RB53 Feature 11 (18.0m²), 5RB2624 Feature 2 (11.6m²), 5ME469 Structure 10 (11.3m²), and 5MF5216 Feature 1 (10.2m²), and possibly could be considered community gathering places or "council lodges." If these features are taken out of the equation the average floor size falls to 4.45 square meters for the total population.

The mean average interior height or "headroom" of all standing shelters is 1.50 meters; however is significantly higher for those in the aspen/conifer environment at 1.84 meters.

Regarding the orientation of entryways, the following numbers appear to make it clear that factors such as sun and wind direction, weather conditions at the time of construction, the location of nearby vegetation, direction of slope, and other topographic and climatological factors appear to have played a more important role in the decision-making process than social or ritual decree. The data suggests that entries facing to the south and east were favored over those to the north and west—not unexpected as this would provide warmth from the sun in the mornings and throughout much of the day, as well as protection from the prevailing westerly winds.

Categorizing entryway orientation according to the eight principal compass directions one finds that east is the most frequent at ten instances, and northwest is the least frequent at two. Dividing the compass into halves, 73% of the recorded entries can be said to face "to the southeast" (from northeast to southwest), and only 51% face "to the northwest" (from southwest to northeast). In this tabulation entries facing to the northeast and the southwest are counted in both categories rather than discarding them from the equation.

Entryway orientation:
North: 5
Northeast: 4
East: 10
Southeast: 5
South: 5
Southwest: 6
West: 4
Northwest: 2

Conversely, upon tabulating the direction of the support or canopy trees from the structures, the opposite appears true—the most common direction is west (29 instances) and least common is southwest (8). There appears to be a tendency to build wickiups and other features with the sheltering trees to the north and west (70% of the time) as opposed to the south and east (50%). Again, this bias suggests that the sites' inhabitants were simply taking advantage of natural shelter from westerly winds, and an open aspect to the sunny south and east. Several of the features utilize more than one support or canopy tree, as shown in Table 5. In these cases, each tree is taken into account and quantified as a separate entity. As with the entryway orientation data, trees that are to the northeast and southwest of features have been counted in both the "northwesterly" and the "southeasterly" categories.

Direction of support/canopy trees from features:
North: 17
Northeast: 14
East: 19
Southeast: 2
South: 12
Southwest: 8
West: 29
Northwest: 10

For the information above, the compass readings as reported on the Aboriginal Wooden Feature Forms have been rounded to the nearest of the eight key directions (N, E, S, W, NE, SE, SW, and NW). For example, in cases where the table presents readings such as "NNE," the direction has been rounded to the nearest key point (in this case, north).

Table 3: Quantifiable Aspects from the Colorado Wickiup Project (2004 – 2011)

ITEMS / SITES (78)	Number of Wooden Features	Leaner Wickiups	Freestanding Wickiups	Pull-down Wickiups	Possible Tipi Frames	Tree Platforms & Horizontal Beams	Wind Breaks/Hunting Blinds	Lean-tos	Ramadas, Arbors & Sun Shades	Canvas Wall Tents	Utility Poles/Racks	Animal Control: Corrals, Pens, Fences, Traps	Pole Caches	Firewood Piles	Culturally Modified Trees	Utility Poles as Elements of Wickiups	Evidence of Trade Goods (incl. Metal Ax Cuts)	Metal Projectile Points	Ordnance (guns/ammunition)	Evidence of Horses	Lithics (Chipped or Groundstone)	Tree Ring Dates Secured	Thermoluminescent Dates	Post-"Removal" (1881) Tree Ring Dates	Cottonwood Triangular/Desert Side-Notched	"Archaic" Projectile Points	Brown Ware Sherds	Number of Stone Ring Hearths
5DT222	1								1								X				X	X		X			X	
5EA439	1					1																						
5DT1538	1							1																				
5EA2436	1					1											X											
5EA2740	28	11	2			4	1				3	3		3	1	2	X	X	X	X	X	X						
5GF308	80	47	7			1					25					?	X	X	X		X				X	X	X	
5GF2333	5	1	2			1						1									X							
5GF2914	1					1																						
5GF3003	1	1																										
5GF3415	1						1														X				X			
5GF3442	1		1														X											
5ME469	16	5	2		1	2		1			3	1	1			3	X		X		X	X						4
5ME974	2						1								1		X				X	X		X	X			
5ME6908	4	1	1								1	1				1					X				X			
5ME14044	1					1											X											
5ME14071	4	1	2			1										3	X											
5ME14256	1										1																	
5ME14258	8	6					1				1						X				X					X		

5ME14259	2	1	1																		X								
5ME14260	10	6	2									1	1				X			?	X					X			
5ME15280	1										1																		
5ME15281	1										1																		
5ME15282	1	1																			X								
5ME15283	2	1	1														X			X	X								
5ME15284	1										1										X								
5ME15794	1	1																			X								
5ME15907	1		1																		X				X				
5MF2631	10	5				1					1			3							X				X		X		
5MF3737	4	3	1																				X				X		
5MF3993	1					1											X												
5MF4368	5	3	2																										
5MF5216	4				1						1	2					X		X	X	X	X		X		X			
5MF6404.1	1											1					X												
5MF6408	2											2					X				X					X			
5RB18	13	2	2		1			1			2		2	2	1		X				X	X		X	X				
5RB53	8		1		2						3	1			1	1	X			?	X								
5RB58	1	1																			X								
5RB129	1	1															X				X								
5RB266	24	4	4	1		4	1		1		6		3			1	X				X	X		X	X	?	X		
5RB509	3			1							2						X	X			X	X			X				
5RB530	4	1	1								1			1			X				X					X			
5RB563	7									2	2			3			X		X	X	X	X		X		X			
5RB568	4	1	1								1				1		X				X	X							
5RB2624	42	14	16	1		3					8					1	X		X	?	X	X	X	X			X		
5RB2929	1	1																			X		X				X		
5RB2930	7	1	3								2			1			X				X	X		X	X				
5RB2932	1												1								X								
5RB4027	14	2	5				1				3			3			X	X							X	X			
5RB4331	1	1															X					X							
5RB4338	10	2												7	1		X				X	X							
5RB4543	12	4	2	1							1		2	2		1			X		X				X				
5RB4799	1	1																											
5RB5609	3										2		1																
5RB5611	1				1																								
5RB5620	1										1																		
5RB5623	1										1						X				X								
5RB5941	2		2																		X						X		
5RB6555	1										1						X				X	X							
5SH3788	3				1						2																		1

Phase VII Sites (RMNP)

SITES (78) / ITEMS	No. of features	Leaner wickiups	Freestanding wicks	Pull-down wickiups	Poss. tipi frames	Platforms/beams	Windbreaks/blinds	Lean-tos	Ramadas/shades	Wall tents	Utility poles	Animal Control	Pole caches	Firewood piles	Modified trees	Util poles in wickiups	Trade goods	Metal Projectile Points	Ordnance	Horses	Lithics	Tree-ring dates	Luminescent dates	Post-1881 dates	C'wood/Desert S/N	Archaic proj points	Brown ware sherds	Stone fire rings
5LR4460	3							1					1	1														
5LR4499	1		1																									
5LR4503	1		1																									
5LR4509	10	1									2		7															
5LR4511	1		1																									
5LR4513	1		1																									
5LR4514	1							1																				
5LR4531	2						1							1														
5LR4548	2	1										1																
5LR6962	2												1		1		X											X
5LR10229	2	1									1																	
5LR12634	1				1																							
5LR12635	1														1		X											
5LR12636	2		1								1																	
5LR12899	1	1																										
5LR12900	1		1																									
5LR12902	2	1									1																	
5LR12903	1		1																									
5LR12904	1												1															
TOTALS	**406**	**135**	**69**	**4**	**8**	**22**	**7**	**5**	**2**	**2**	**82**	**14**	**21**	**27**	**8**	**13**	**33**	**4**	**7**	**7**	**35**	**15**	**3**	**8**	**12**	**8**	**8**	**6**

Table 4: Wood Species for CWP Features (75 Sites)	Wooden Features	Juniper Elements	Piñon Elements	Undet. Piñon/ Juniper Elements	Aspen Elements	Conifer Elements	Undet. Deciduous/ Conifer Elements	Juniper Support/ Canopy Trees	Piñon Support/ Canopy Trees	Aspen Support/ Canopy Trees	Conifer Support/ Canopy Trees
5DT222	1	7						1			
5DT1538	1						75				
5EA439	1			11					1		
5EA2436	1			16				1			
5EA2740	28	8		126				18	15		
5GF308	80			480				74	7		
5GF2333	5			36				3			
5GF2914	1			24				1			
5GF3003	1			11				1			
5GF3415	1			13							
5GF3442	1			17							
5ME469	16	2		128				3	15		
5ME974	2	17	1					2	1		
5ME6908	4			23				2			
5ME14044	1			15				1			
5ME14071	4				111					4	
5ME14256	1			1				1			
5ME14258	8			64				5	5		
5ME14259	2			16				1			
5ME14260	10			89				5	1		
5ME15280	1			2				1			
5ME15281	1			1					1		
5ME15282	1			10				1			
5ME15283	2			8				1			
5ME15284	1			2					1		
5ME15794	1			3				1			
5ME15907	1			12							
5MF469	16	2		128				3	15		
5MF3737	4			16				4			
5MF3993	1			18					1		
5MF4368	5			57				4			
5MF5216	4	10		1				1	1		
5RB18	13			92				8			
5RB53	8	9	3	41				12			
5RB58	1			4				1			
5RB129	1			4				1			
5RB266	24			159				14	4		
5RB509	3	4						3			
5RB530	4	2		29				3	1		

	Wooden Features	Juniper Elements	Piñon Elements	Undet. Piñon/ Juniper Elements	Aspen Elements	Conifer Elements	Undet. Deciduous/ Conifer Elements	Juniper Support/ Canopy Trees	Piñon Support/ Canopy Trees	Aspen Support/ Canopy Trees	Conifer Support/ Canopy Trees
5RB563	7			12				1	2		
5RB568	4			43				2			
5RB2624	42			317				26	1		
5RB2929	1			7				1			
5RB2930	7			28				3			
5RB2932	1			4							
5RB4027	14			76				5	3		
5RB4331	1			14					1		
5RB4338	10			14				2			
5RB4543	12	6		56				7			
5RB4799	1			8					1		
5RB5609	3			9				3			
5RB5611	1			9							
5RB5620	1			1				1			
5RB5623	1			2				1			
5RB5941	2			17							
5RB6555	1	1						1			
5SH3788	3				106		31				3
PHASE VII SITES (Rocky Mountain National Park)											
5LR4460	2						38				2
5LR4499	1				70						3
5LR4503	1				16					1	6
5LR4509	10				52						11
5LR4511	1				35						1
5LR4513	1				12	34				2	
5LR4514	1				21	2				4	
5LR4531	1				15	4					1
5LR4548	2				82	6		1			2
5LR6962	1				39						2
5LR10229	2				40	6					
5LR12634	1				14						1
5LR12636	2				31						2
5LR12899	1				32						1
5LR12900	1				50	19					
5LR12902	2				16						2
5LR12903	1					45					
5LR12904	1					17					
TOTALS	**405**	**68**	**4**	**2274**	**742**	**95**	**144**	**231**	**77**	**11**	**37**

Table 5: Selected Aspects of Wickiups and Other Shelters for the Colorado Wickiup Project

(225 total shelters in database, 129 with attributes contributing to this table)

Feature Number	Entryway Orientation	Floor Size (sq. m)	Interior Headroom (m)	Direction of Support/Canopy Trees from Features	Presence of Hearths (interior possibly exaggerated due to more int. trowel tests)		
					Exterior	Interior	Interior AND Exterior
5DT222 (Black Canyon Ramada)							
Feature 1	NW	4.7	1.6	W	X		
5DT1538							
Feature 1	SW	1.8	0.8				
5EA2740 (Pisgah Mountain Wickiup Village)							
Feature 2A				N			
Feature 3		3.3	1.6	NE			
Feature 4	N	2.1	1.5	WNW			
Feature 7	SW	3.7	0.8	WSW			
Feature 8		6.7	1.2	N/NNE/ESE	X		
Feature 9		5.9	1.6	W/NE			
Feature 10A	NE?	5.1	1.5	W/E		X	
Feature 11A		5.2	1.0	NE/E			
Feature 12A	S	2.7	1.7	NE/E	X		
Feature 13A			1.7	W			
Feature 16	SW	3.7	1.7	NE			
5GF308 (Rifle Wickiup Village)							
Feature 1	SW?	7.5	1.6	E	X		
Feature 3	SW?	12.5	1.1	NE		X	
Feature 4	E?	9.6		W		X	
Feature 20	NE?	2.9	1.1	W		X	
Additional hearth data from 5GF308 without reference to specific feature:					8	4	3
5GF3003							
(unnumbered)	WSW?	4.1	1.3				
5GF3442							
(unnumbered)	SSE						
5ME469 (Decker Big Tank Wickiup Village)							
Structure 1		5.7	1.0	W			X
Structure 4A		2.5	1.7	SSE		X	
Structure 5				N		X	
Structure 6		9.1	1.7			X	
Structure 9	SSW	3.9	1.9	SE			
Structure 10		11.3	1.5	W			
Structure 12		3.7	2.0	W			
Structure 13	ENE	3.9	0.7	SSE			

Feature Number	Entryway Orientation	Floor Size (sq. m)	Interior Headroom (m)	Direction of Support/Canopy Trees from Features	Presence of Hearths (interior possibly exaggerated due to more int. trowel tests)		
					Exterior	Interior	Interior AND Exterior
5ME6908 (Black Ridge Wickiup Site)							
Feature A	E	6.6			X		
5ME14071 (Singing Wickiup Site)							
Feature 1	N	4.5	1.2	S			
Feature 3	E	5.3	1.5	S			
5ME14258							
Structure 1		5.0	1.4	NW	X		
Structure 2	SE?	1.6	1.9	ENE			
Structure 4				SW			
Structure 5		1.0	1.7	SW			
Structure 6		2.0	1.6	WSW			
Structure 7		3.0	1.3	NE			
5ME14259							
Structure 1		1.8	0.8	NE			
Structure 2					X		
5ME14260							
Structure 3		3.5	1.3	NNE			
Structure 4	NE?	4.0	1.8	E			
Structure 6		6.0	1.4	NW			
Structure 7			1.0	W			
5ME15282							
(unnumbered)			1.7	W/SW/NE			
5ME15283							
Structure 1		5.7	1.2				
Structure 2		3.1	1.0	SW		X	
5ME15284							
(unnumbered)					X		
5ME15794							
Feature 1				NE		X	
5ME15907							
Feature 1	WSW	7.2	1.7			X	
5MF4368							
Feature 4				E/W		X	
5MF5216 (Disappointment Draw Lodge)							
Feature 1	SE	10.2	1.9	ESE			
5RB18 (Two Tall Pole Wickiup Village)							
Feature 1	NE	3.2	1.3	NW			
Feature 2		9.6	2.2	N		X	
Feature 4			0.9	WSW		X	

Feature Number	Entryway Orientation	Floor Size (sq. m)	Interior Headroom (m)	Direction of Support/Canopy Trees from Features	Presence of Hearths (interior possibly exaggerated due to more int. trowel tests)		
					Exterior	Interior	Interior AND Exterior
Feature 7				SE			
Feature 8				NW			
5RB53 (Duck Creek Wickiup Village)							
Feature 2						X	
Feature 11	N	18.0	2.1	SW			
Feature 12	SE	4.5	2.0	N			X
Feature 13	SE	8.2	1.3	NW			
5RB58							
Feature 1			0.6	NW			
5RB129 (Smirnoff Site)							
Feature 1		1.3	0.7	E			
5RB266 (Wenger Camp)							
Feature 2			1.5	W			
Feature 3B				E		X	
Feature5A					X		
Feature 6A			1.5	NW			
Feature 7					X		
Feature 10				WNW			
Feature 12			1.1	SW			
5RB530							
Feature B				NE	X		
Feature C				N	X		
5RB563 (Ute Hunters' Camp)							
Feature 6	N				X		
5RB568							
Feature 1				W			
5RB2624 (Rader's Wickiup Village)							
Feature 2	E?	11.6	1.8				
Feature 3A	E?		1.4	S			
Feature 3B		2.0	1.1	E			
Feature 4B		4.2					
Feature 5A		6.2					
Feature 6						X	
Feature 7		6.6				X	
Feature 8		3.0	1.7	S			
Feature 11		6.2				X	
Feature 12A	SSE	3.0	1.2	N	X		
Feature 13		2.5		W	X		
Feature 14A				N	X		

Feature Number	Entryway Orientation	Floor Size (sq. m)	Interior Headroom (m)	Direction of Support/Canopy Trees from Features	Presence of Hearths (interior possibly exaggerated due to more int. trowel tests)		
					Exterior	Interior	Interior AND Exterior
Feature 15				N			
Feature 16				WNW		X	
Feature 17A		5.3				X	
Feature 18A	SE	4.5	1.1	W/SSW			
Feature 19				NW			
Feature 20			1.5	NE			
Feature 26				E			
Feature 27A					X		
Feature 28		4.9				X	
Feature 29				ESE	X		
Feature 30A					X		
Feature 30B					X		
5RB2929							
Feature 1				NW	X		
5RB2930							
Feature 1					X		
Feature 6			1.2	SSW			
5RB4027							
Feature 1		6.1	1.9	NNE		X	
Feature 4				NNW		X	
Feature 7				SW/N			
Feature 8						X	
Feature 12						X	
Feature 14					X		
5RB4331 (Black Sulphur Creek Wickiup)							
Feature 1	WNW	2.1	1.3	WNW			
5RB4338 (Bead Village)							
Feature 1A				WNW	X		
Feature 2				W			
5RB4543 (Dancing Cows Wickiup Village)							
Structure 1				W			
Structure 2				W			
Structure 4				WSW			
Structure 4A				NW			
5RB4799							
(unnumbered)	ENE	6.8	1.7				
5RB5611							
Feature 1		5.7			X		

Feature Number	Entryway Orientation	Floor Size (sq. m)	Interior Headroom (m)	Direction of Support/Canopy Trees from Features	Presence of Hearths (interior possibly exaggerated due to more int. trowel tests)		
					Exterior	Interior	Interior AND Exterior
5SH3788 (Musick Lodge)							
Feature 1	WNW	6.8	2.8			X	
PHASE VII SITES (Rocky Mountain National Park)							
5LR4460							
Feature 1	ESE	4.0	1.3	ESE			
5LR4499							
Feature 1	SSW			N/S/E		X	
5LR4503							
Feature 1				E/S			
5LR4509							
Feature 1			2.5	NE			
5LR4511							
Feature 1		3.9		E			
5LR4513							
Feature 1				SSE			
5LR4514							
Feature 1	SW	2.5	2.5	S			
5LR4548							
Feature 2				W			
5LR10229							
Feature 1	NW	2.9	1.5	NNW			
5LR12624							
Feature 1		2.5	1.7	SW			
5LR12636							
Feature 1				NE			
5LR12899, Lightning Bear Wickiup							
Feature 1	N	2.3	1.0	N			
5LR12900, Tea House Wickiup							
Feature 1	ESE	5.5	2.6				
5LR12902							
Feature 1	E	4.9	1.6	ESE			
5LR12903							
Feature 1	NNE						X
Average Floor Size: 5.04 sq. m			**Average Headroom: 1.50 m**		**33**	**31**	**6**

Determinations of Effect and Management Recommendations

In general, with several notable exceptions, the archaeological documentation and analysis of Colorado wickiups and other ephemeral wooden features have been far from adequate in the past, and continue to be unacceptable. This is especially of concern considering the rare and transitory nature of the resource. An additional problem is that, even in areas that have been surveyed for cultural resources in the past, a great many such structures have, in all likelihood, been overlooked even by seasoned archaeologists. This is particularly true of collapsed features, utility poles, and pole caches. In areas of high likelihood for such structures, including the eastern portion of Rocky Mountain National Park, cultural resource area managers should not assume that all, or even most, such structures have been located and recorded in previously surveyed areas.

Potential negative impacts on aboriginal wooden feature sites can occur as a result of both natural and human causes. Resultant adverse effects on the integrity of these cultural resources range from loss of feature- and structure-specific data, to loss of site context and, in some instances, virtually total loss of the resource and its environmental context.

Natural processes such as wildfires and the inevitable deterioration, collapse, and disappearance of aboriginal wooden structures due to wind, moisture, and decay are ubiquitous threats. Judiciously applied, fire mitigation and fuels management programs may provide wooden feature sites some degree of protection from wildfires, however, careful implementation of fuel reduction and other vegetation management activities is critically important. We have observed at least one instance of inadvertent damage to the integrity of aboriginal wooden features resulting from tree cutting and dead wood removal which was intended to mitigate the wildfire threat to a wickiup site. The CWP has also documented, within the last five years, five cases of wickiups that have partially collapsed as a result of natural causes.

Also, as reported in the CWP Phase II report (Martin, Conner, and Darnell 2005), no references have been found regarding *in situ* stabilization or reconstruction attempts for aboriginal wooden features similar to the ephemeral resources discussed herein. Wood preservation techniques have been used on wooden architectural components found in more substantial cultural resources throughout the world; however, again, no similar mitigation approaches as applied to fragile features such as wickiups are known to these researchers.

Further, it is acknowledged that attempts to shore up or preserve aboriginal wooden structures in the field can be considered as only a temporary solution, at best. The value of stabilization and *in situ* preservation efforts on features such as these are debatable, and ethical factors may also apply in sensitive cases such as at burial platform sites, menstrual huts, and other ceremonial structures.

Similarly, only two cases in Colorado are known to the CWP of attempts for the outright collection of ephemeral aboriginal wooden features for curation and preservation within curatorial facilities—the Elk Track War Lodge (Martorano et al 1999) and 5GF519 a hunting blind tree scaffold (Gooding 1981). The former is an aspen-pole wickiup that was collected by the Colorado Historical Museum that is currently on display as an interpretive exhibit at the Ute Indian Museum in Montrose. The latter describes a tree platform constructed of juniper poles among the branches of a living juniper near DeBeque. The entire structure, including the 20 foot-tall living tree in which it was constructed, was dismantled and collected in 1981 and moved to the Denver Museum of Nature and Science (DNMS) for preservation and potential exhibition. Each of the 15 platform poles were measured and the junctures or points of contact of each pole with each other or the tree branches was marked and mapped prior to disassembly. After removal of the platform the tree was sawed off near ground level and collected as well (John Gooding 2005: personal communication). Numerous photographs and drawings were made to aid in the accurate reconstruction of the feature should such an opportunity arise. A note in the site files at Colorado Department of Transportation (CDOT) mentions that, although the poles are apparently still in storage, the tree was "inadvertently discarded" several years ago by the DMNS (OD Hand 2005: personal communication).

One of the goals of DARG research associates, and the Colorado Wickiup Project in future grant projects, is to consult with members of the Ute tribes, museums, the National Park Service, and the BLM about their thoughts and concerns regarding similar wholesale collections of one or more structures, wickiups in particular, for preservation, interpretation and/or display in indoor facilities such as the Museum of Western Colorado in Grand Junction, the Ute Museum in Montrose, and the state-of-the-art Southern Ute Indian Cultural Center and Museum, which opened in 2011 on the Southern Ute Reservation in Ignacio. Another option to be considered would be the construction of structures to encapsulate wooden features in place as outdoor, *in situ*, interpretive exhibits. These options, and others, are discussed below in regards to the intact wickiup at site 5LR12900, the Tea House Wickiup.

Human activities such as OHV recreation, artifact pilfering, livestock grazing, and a variety of other impacts due to increased visitation to the site areas by recreationists and people involved in energy exploration increasingly threaten aboriginal wooden feature sites. There are known instances of aboriginal wooden features having been inadvertently dismantled by modern visitors for use as fire wood or fence posts. As documented elsewhere in this report, more than one feature in RMNP have even been intentionally dismantled or altered by uninformed park visitors.

As discussed in the Archaeological Assessment of the Rifle Wickiup Village (O'Neil et al. 2004), it is difficult to determine the best means of protecting ephemeral wooden features from modern visitors. We continue to recommend that, in currently undisturbed and little-visited areas, sites and structures remain unmarked. However, in areas where negative visitation impacts have begun to occur—from innocent and uneducated individuals, or

vandals alike—a program of public education and protection should be implemented as soon as possible. This holds particularly true for the high-visitation areas of Rocky Mountain National Park. In several cases in the past it has been recommended that fences be constructed around specific features as protection from livestock and wildlife impacts. In certain instances this appears to be the overriding concern relative to the potential negative impacts of drawing attention to the site by the presence of fences.

Therefore, our management recommendations for ephemeral aboriginal wooden feature sites throughout the state include continued comprehensive documentation of known but incompletely studied wooden feature sites, additional Class III surveys in the areas surrounding these sites, periodic monitoring of specific resources, the creation of fire breaks and fuel reduction programs, protective fencing in select cases, archaeological testing and excavation of selected sites and features that target gaps in the current data, additional dendrochronological, bone collagen, and luminescent sampling, and the consideration of district stewardship programs in cooperation with local land owners, museums, and amateur archaeological associations.

The findings of the current phase of investigations by the Colorado Wickiup Project, as reported herein, have added significantly to the database of the Protohistoric and early Historic ephemeral aboriginal wooden features in the state, and most importantly to our understanding of the last decades of the sovereign Native peoples of the mountains and Front Range of Colorado.

Table 1 presents a summary of the field evaluations for each of the wooden feature sites documented during Phase VII of the Colorado Wickiup Project. Specific recommendations for each site are presented at the end of each site description in the "Study Findings and Site Descriptions" section.

Public and Professional Outreach

As a part of the on-going public and professional outreach program of the Colorado Wickiup Project, Principal Investigator Curtis Martin and Project Coordinator Richard Ott have produced and delivered numerous lectures and PowerPoint presentations regarding the Ute Indians of Colorado and the findings of the CWP to both the professional archaeological community and the public at large as outlined below. Martin also continues to educate a new generation of archaeologists in regards to aboriginal wooden features and the Protohistoric archaeology of Colorado as part of his Field Methods in Archaeology course at Colorado Mesa University in Grand Junction.

Wickiup Related Presentations and Activities by Curtis Martin

- Big Meeting at Crow Canyon (Big MACC), Cortez, 2/25/05
- Colorado Council of Professional Archaeologists (CCPA), Grand Junction, 3/5/05

- Colorado Archaeological Society (CAS) Chipeta Chapter, Montrose, 11/16/05
- Colorado Preservation, Inc.'s Historical Preservation Conference, Denver, 2/9/06
- Museum of the West, Grand Junction, 5/19/06
- Colorado Council of Professional Archaeologists (CCPA), Glenwood Springs, 3/31/07
- Ute Ethnohistory Meeting with BLM (GSFO, GJFO, and UFO), Grand Junction, 3/12/08
- Colorado Council of Professional Archaeologists (CCPA), Fort Collins, 4/12/08
- The Old Spanish Trail Re-dedication, Grand Junction, 5/8/08
- Lunchtime Lecture Series, Frisco Historic Park and Museum, Frisco, 7/2/08
- Colorado Preservation, Inc.'s Saving Places "On the Road" lecture series, Glenwood Springs, 9/14/08
- Colorado Council of Professional Archaeologists (CCPA), Alamosa, 4/3/09
- Denver Chapter of the Colorado Archaeological Society (CAS), Denver, 7/13/09
- Dedication of the Ute Ethnobotany Learning Garden, Grand Junction, 9/18/09
- Native American Heritage Month (NAHM), Montrose, 11/14/09
- Native American Heritage Month NAHM, Montrose, 11/28/09
- Horizon Sunrise Rotary Club, Grand Junction, 12/10/09
- Colorado Council of Professional Archaeologists (CCPA), Montrose, 3/26/10
- The Ute Learning Garden "Mini Pow Wow" of the Tri-River Colorado State University Extension Office at the Mesa County Fairgrounds, Grand Junction (aided Ute spiritual leader Clifford Duncan in the construction of model wickiups and hearths), 6/12/10
- Feature article about the Colorado Wickiup Project entitled "A Journey in Time" (by John Anglim) in the August edition of *Grand Valley* magazine, Grand Junction, 2010
- Two-day field excursion with Drs. Jeff Dean and Ron Towner of the Laboratory of Tree-Ring Research to Piceance Basin wooden feature sites for dendrochronological sample collection, 8/15 and 8/18/10
- New Mexico Archaeological Council Fall Conference, Albuquerque 11/13/10
- The Colorado Mountain Club, Grand Junction, 12/1/10
- Colorado Council of Professional Archaeologists (CCPA), La Junta, 3/25/11
- Lecture 1 in the Museum of the West Lecture Series, joint presentation with the Colorado Canyons Association (~200 attendees), Grand Junction, 2/23/12.
- Colorado Council of Professional Archaeologists (CCPA), Durango, 3/24/12
- Rocky Mountain National Park Researchers' Conference, Estes Park, 3/29/12
- Interviewed for KJCT-TV newscast, Grand Junction, Colorado, 4/16/12
- Live newscast on KKCO_TV "11 News Today", 4/25/12
- Palisade Historical Society, Palisade, Colorado, 4/25/12 (~100 attendees)
- Training program for docents at the Ute Learning Garden of the Tri-River Colorado State University Extension Office at the Mesa County Fairgrounds, Grand Junction, 4/27/12.
- Western Colorado Archaeology Symposium, Museum of Western Colorado, Grand Junction (master of ceremonies and presenter), 5/19/12.

Wickiup Related Presentations and Activities by Richard Ott

- Four Rivers Historical Alliance, March 2011, Glenwood Springs
- Grand Junction Lions Club, September 2011
- Western Colorado Writers' Forum, Language of this Land Conference, October 2011, Grand Junction. (Coordination for Clifford Duncan keynote talk, video documentation)
- Colorado Canyons Association (CCA) board. Liaison for DARG with focus on public archaeology and Native American perspectives in the NCAs (McInnis, Dominguez-Escalante, Gunnison Gorge)
- School Presentation — Colorado Canyons Association Field Trips (two days) to McInnis Canyons NCA for elementary and middle school students — "People from the past" and Ute History
- CCA Lecture Series at Museum of Western Colorado — "Archaeology in the NCAs", with Curtis Martin. Intro to culture history, protohistoric and historic archaeology, and Ute ethnohistory
- Western Colorado Archaeology Symposium, Museum of Western Colorado, Grand Junction, 5/19/12.

Future Directions and Current and Proposed Field Work

Dominquez Archaeological Research Group maintains that the Colorado Wickiup Project's strategy of "preservation through documentation" deserves continued, accelerated and expanded effort and commitment of resources. The knowledge we have gained thus far about the state's aboriginal wooden structures has further deepened our appreciation of these fragile archaeological resources in and of themselves, and confirmed our original assessment of their immeasurable value, not only to Colorado Ute/Numic archaeology, but to the archaeology of the entire western U.S. and the earlier Formative, Archaic, and Paleoindian inhabitants as well, and to the living descendants of the people who created them. We have also come to recognize that we can increase the value of our efforts by expanding the scope of our studies to include a wider geographic and temporal range and a broader scope of research questions and preservation challenges related to aboriginal wooden feature sites and sites that provide evidence of once having had wooden features both within Colorado and beyond the state's boundaries.

The Colorado Wickiup Project's Phase VII, having taken place within the boundaries of a National Park, has presented the project with unique challenges concerning protection, preservation, and interpretation issues—especially in regards to the intact and highly threatened wickiup at site 5LR12900, the Tea House Wickiup.

Based on the unique and comprehensive data garnered during the initial seven phases, the Colorado Wickiup Project looks forward, hoping to continue our long-range goals of developing a dedicated aboriginal wooden feature knowledge database; facilitating

collaborative research and education through information sharing and professional and public outreach; disseminating this information to Native Americans thereby providing a cultural continuity that has been lost; and providing land managing agencies with the information needed for the protection of these sites. To this end we recommend the continuation of our on-going efforts to re-visit and intensively record all aboriginal expedient wooden feature sites throughout the state via extensive data recovery—including the collection of materials for chronometric analysis, metal detection, and excavation of selected sites in order to mitigate the threat to these features.

The Colorado Wickiup Project has been awarded two Archaeological Assessment Grants by the State Historical Fund of the Colorado State Historical Fund for the summer field season, 2012. The first of these grants is entitled "Selected Western Colorado Aboriginal Wooden Feature Sites Known to Mr. George Decker" (SHF Project #2012-AS-013). Mr. Decker grew up ranching throughout the western part of the state and found numerous Ute wickiups, tree platforms, and rock are sites during his life and has agreed to share the locations of the wooden feature sites with the CWP. Four of the premier sites will be visited and fundamental documentation of the sites and individual wooden features will be carried out in order to ascertain their current condition, eligibility, and potential for future research.

The second of the grants, is entitled "A Further Assessment of 5LR12900, the Tea House Wickiup" (SHF Project #2012-AS-011). Additional funding for further research at this site has also been awarded to Karen Waddell, Cultural Resource Specialist for Rocky Mountain National Park, as a National Park Foundation Service Impact Grant (NPF) entitled "Documentation and Interpretive Planning for an Aboriginal Structure in Rocky Mountain National Park."

The research from these two grants sources will entail 1) test excavations and soil auger tests in order to further evaluate the archaeological potential of this extraordinary site, 2) generation of an intensive pole-by-pole photographic elevation view of the standing feature, and 3) consultation with tribal members in order to prepare a comprehensive plan for the long-term protection, preservation, and possible public display and interpretation of the wickiup. The field work portion of this research has been scheduled for June of 2012 and will involve Karen Waddell; Clifford Duncan, Elder, Spiritual Leader and NAGPRA Consultant for the Ute Indian Tribe; and Betsy Chapoose, Director of the Cultural Rights and Protection Department for the Ute Tribe. Consultation from members of the Arapaho Tribe is also being sought.

References

Baker, Steven G.
1998 The Archaeology of Ute Rancherias. Paper presented at the Colorado Council of Professional Archaeologists annual meeting, Pueblo.

Baker, Steven G., Richard F. Carrillo, and Carl D. Spath
2007 Protohistoric and Historic Native Americans. In *Colorado History: A Context for Historical Archaeology*, Church, Minette C., Steven G. Baker, Bonnie J. Clark, Richard F. Carrillo, Jonathon C. Horn, Carl D. Späth, David R. Guilfoyle, and E. Steve Cassells, Colorado Council of Professional Archaeologists, Denver.

Baker, Steven G., Jeffery S. Dean, and Ronald H. Towner
2007 Rewriting the Prehistory of Western Colorado? The Old Wood Calibration Project: a Progress Report. Paper presented to the Annual Meeting of the Colorado Council of Professional Archaeologists, Glenwood Springs.

2008 Final Report for the Old Wood Calibration Project, Western Colorado. Centuries Research, Inc., Montrose, Colorado, in collaboration with The Laboratory of Tree-Ring Research, University of Arizona, Tucson.

Benedict, James B.
1996 *The Game Drives of Rocky Mountain National Park*. Research Report No. 7, Center for Mountain Archeology, Ward, Colorado.

Brunswig, Robert, Jr.
2000 Report on the Archaeological Surveys in Rocky mountain National Park by the University of Northern Colorado. Manuscript on file at Rocky Mountain National Park, Estes Park, Colorado.

Brunswig, Robert, Jr., David Diggs, and Christine Chady Montgomery
2009 Native American Lives and Sacred Landscapes in Rocky Mountain National Park. Manuscript on file at Rocky Mountain National Park, Estes Park, Colorado.

Butler, William B.
1997 Cultural Resource Survey and Dendrochronological Investigations in the Glacier Creek Prescribed Burn Number 1, Rocky Mountain National Park, Larimer County, Colorado. Manuscript on file at Rocky Mountain National Park, Estes Park, Colorado.

Butler, William B.
2000 Cultural Resource Survey of the Bear Lake Road, Rocky Mountain National Park, Larimer County, Colorado. Manuscript on file at Rocky Mountain National Park, Estes Park, Colorado.

2001 Limited Results: Cultural Resource Survey of a Small Area on the Slope of Deer Mountain, Rocky Mountain National Park, Larimer, County, Colorado. Manuscript on file at Rocky Mountain National Park, Estes Park, Colorado.

Cassells, E. Steve
1983 *The Archaeology of Colorado*. Johnson Books, Boulder, Colorado.

1997 *The Archaeology of Colorado: Revised Edition*. Johnson Books, Boulder, Colorado.

Church, Minette C., Steven G Baker, Bonnie J. Clark, Richard F. Carrillo, Jonathan C. Horn, Carl D. Späth, David R. Guilfoyle, and E. Steve Cassels
2007 *Colorado History: A Context for Historical Archaeology*. , Colorado Council of Professional Archaeologists, Denver.

Clark, Bonnie J.
1999 Chapter 7: The Protohistoric Period. In Gilmore et al *Colorado Prehistory: A Context for the Platte River Basin*, Colorado Council of Professional Archaeologists, Denver, 1999.

Conner, Carl E., Nicole Darnell, Brian O'Neil, Richard Ott, Curtis Martin, Dakota Smith, and Barbara Davenport
2011 Class I Cultural Resource Overview for the Grand Junction Field Office of the Bureau of Land Management. Manuscript on file at the Grand Junction Field Office of the Bureau of Land Management

Decker, Peter R.
2004 *"The Utes Must Go!"* Fulcrum Publishing, Golden, Colorado.

Diggs, David and Robert Brunswig Jr.
2006 Modeling Native American Sacred Sites in Rocky Mountain National Park. In Proceedings of the Twenty-sixth Annual ESRI International User Conference (web publication at http://gis.esri.com/library/userconf/proc06/papers/abstracts/a2243.html ESRI, San Diego.

Fuller, H. M. and L. F. Hafen
1973 The Journal of Captain John R. Bell. Arthur H. Clark, Glendale.

Gilmore, Kevin P., Marcia Tate, Mark L. Chenault, Bonnie Clark, Terri McBride, and Margaret Wood
1999 *Colorado Prehistory: A Context for the Platte River Basin*. Colorado Council of Professional Archaeologists, Denver.

Gooding, John D.
1981 5GF519 Hunting Blind. Unpublished field notes. Manuscript on file at the State of Colorado Department of Transportation and the Denver Museum of Nature and Science.

Hanson, Lisa. S. and William B. Butler
1999 Cultural Resource Survey of the Deer Ridge Units 4 and 5 Prescribed Burns in Rocky Mountain National Park, Larimer County, Colorado. Manuscript on file at Rocky Mountain National Park, Estes Park, Colorado.

Kavanaugh, James
2010 *Rocky Mountain National Park Trees and Wildflowers: An Introduction to Familiar Species*. Rocky Mountain Nature Association. Waterford Press, Inc., Phoenix.

Kidwell, A. S., Jr.
1969 The Conical Timbered Lodge on the Northwestern Plains: Historical, Ethnological, and Archaeological Evidence. *Archaeology in Montana* 10(4):1-49.

Kornfeld, Marcel, George C. Frison, and Mary Lou Larson
2010 *Prehistoric Hunter-Gatherers of the High Plains and Rockies: Third Edition*. Left Coast Press, Inc., Walnut Creek, California.

Martin, Curtis and Michael J. Brown
2010a The Colorado Wickiup Project Volume V: Test Excavation of the Ute Hunters' Camp (5RB563) and Documentation of Five Additional Aboriginal Wooden Feature Sites in Rio Blanco County, Colorado. Manuscript on file at the Office of Archaeology and Historic Preservation, Denver, and the Bureau of Land Management Colorado State Office, Lakewood, Colorado.

2010b A Further Assessment of 5EA2740, the Pisgah Mountain Wickiup Village in Eagle County, Colorado. Manuscript on file at the Office of Archaeology and Historic Preservation, Denver, and the Bureau of Land Management Colorado State Office, Lakewood, Colorado.

Martin, Curtis, Michael J. Brown, and John E. Lindstrom
2011 The Colorado Wickiup Project Volume VI: Test Excavation of the Black Canyon Ramada (5DT222) and the Documentation of Four Additional Premier Aboriginal Wooden Feature Sites in Colorado. Manuscript on file at the Office of Archaeology and Historic Preservation, Denver, and the Bureau of Land Management Colorado State Office, Lakewood, Colorado

Martin, Curtis, Carl E. Conner, and Nicole Darnell
2005 The Colorado Wickiup Project Volume II: Cultural Resources Class II Reconnaissance Inventory for the Gunnison Gulch Area of Mesa County, Colorado. Manuscript on file at the Office of Archaeology and Historic Preservation, Denver, and the Bureau of Land Management Colorado State Office, Lakewood, Colorado.

Martin, Curtis and Richard Ott
2009 The Colorado Wickiup Project Volume IV: Recordation and Re-evaluation of Twelve Aboriginal Wooden Structure Sites in Eagle, Garfield, Mesa, and Rio Blanco Counties, Colorado. Unpublished manuscript on file at the Office of Archaeology and Historic Preservation, Denver, and the Bureau of Land Management Colorado State Office, Lakewood, Colorado.

Martin, Curtis, Richard Ott, and Nicole Darnell
2005 The Colorado Wickiup Project Volume I: Context, Data Assessment and Strategic Planning. Unpublished manuscript on file at the Office of Archaeology and Historic Preservation, Denver, and the Bureau of Land Management Colorado State Office, Lakewood, Colorado.

2006 The Colorado Wickiup Project Volume III: Recordation and Re-evaluation of Twelve Aboriginal Wooden Structure Sites in Eagle, Garfield, Mesa, and Rio Blanco Counties, Colorado. Unpublished manuscript on file at the Office of Archaeology and Historic Preservation, Denver, and the Bureau of Land Management Colorado State Office, Lakewood, Colorado.

Martorano, Marilyn A.
1981 Scarred Ponderosa Pine Trees Reflecting Cultural Utilization of Bark. Unpublished Master's thesis, Department of Anthropology, Colorado State University, Fort Collins.

Martorano, Marilyn A., Ted Hoefer III, Margaret (Pegi) A. Jodry, Vince Spero, and Melissa L. Taylor
1999 *Colorado Prehistory: A Context for the Rio Grande Basin*. Colorado Council of Professional Archaeologists, Denver.

Matthews, Washington
1877 Ethnographic Philology of the Hidatsa Indians. Johnson Reprints, New York.

Pfaffmann, Garrick
2007 *Rocky Mountain Plants: Trees, Shrubs, and Wildflowers*. Family Field Guide Series, Vol. 2. BearBop Press, LLC, Basalt, Colorado.

Pickering, James H. and Carey Stevanus
2006 *Estes Park and Rocky Mountain National Park: Then & Now*. Westcliffe Publishers, Boulder, Colorado.

Sanfilippo, Joanne
1998 Ute Wikiups or Navajo Forked-Stick Hogans: Determining Ethnicity Through Architecture in the Archaeological Record. Unpublished Master's thesis, Department of Anthropology, Northern Arizona University, Flagstaff. Ms on file at Bureau of Land Management, GSFO

Smithson, Michael T.
2009 *Rocky Mountain: the Story Behind the Scenery*. KC Publications, Inc., Wickenburg, Arizona.

Tekiela, Stan
2007 *Trees of Colorado: Field Guide*. Adventure Publications, Inc., Cambridge, Minnesota.

Toll, Oliver W.
1962 *Arapaho Names & Trails: A Report of a 1914 Pack Trip*. Rocky Mountain Nature Association, Estes Park, Colorado.

A.

Appendix A: Site Location Information

Table A-1: Summary of Cultural Resources with Location Information: The Colorado Wickiup Project Phase VII ~ Rocky Mountain National Park

Site Number	Description	UTM Location (NAD83, Zone 13)
Previously Recorded Sites Reevaluated by the CWP		
5LR4460	Hidden Valley Wickiups Boulder lean-to, pole cache, and firewood pile	[redacted]
5LR4499	Partially collapsed wickiup	
5LR4500	[incorporated into site 5LR4509 as Feature 5A/5B]	
5LR4503	Collapsed Wickiup or Pole cache	
5LR4509	Brunswig Wickiup Village Wickiup, 7 pole caches, 2 utility racks	
5LR4511	Collapsed wickiup	
5LR4513	Partially collapsed wickiup	
5LR4514	Collapsed boulder lean-to	
5LR4531	Dismantled/reconstructed boulder lean-to, windbreak, firewood pile	
5LR4548	Hidden Valley Wickiups Brush animal trap and partially collapsed wickiup	
5LR6962	Pole cache and culturally-peeled ponderosa	
5LR10229	Partially collapsed and reconstructed leaner wickiup and burned log leaned against boulder	
5LR12899	Lightning Bear Wickiup [previously "5LRwick2"] Standing leaner wickiup	

Site Number	Description	UTM Location (NAD83, Zone 13)
Newly Discovered Sites Documented by the CWP		
5LR12634	Partially collapsed wickiup or pole cache	[redacted]
5LR12635	Bark-peeled ponderosa	
5LR12636	Collapsed freestanding wickiup and utility rack	
5LR12900	Tea House Wickiup Standing freestanding wickiup	
5LR12902	Standing leaner wickiup and utility pole	
5LR12903	Collapsed freestanding wickiup	
5LR12904	Pole cache	

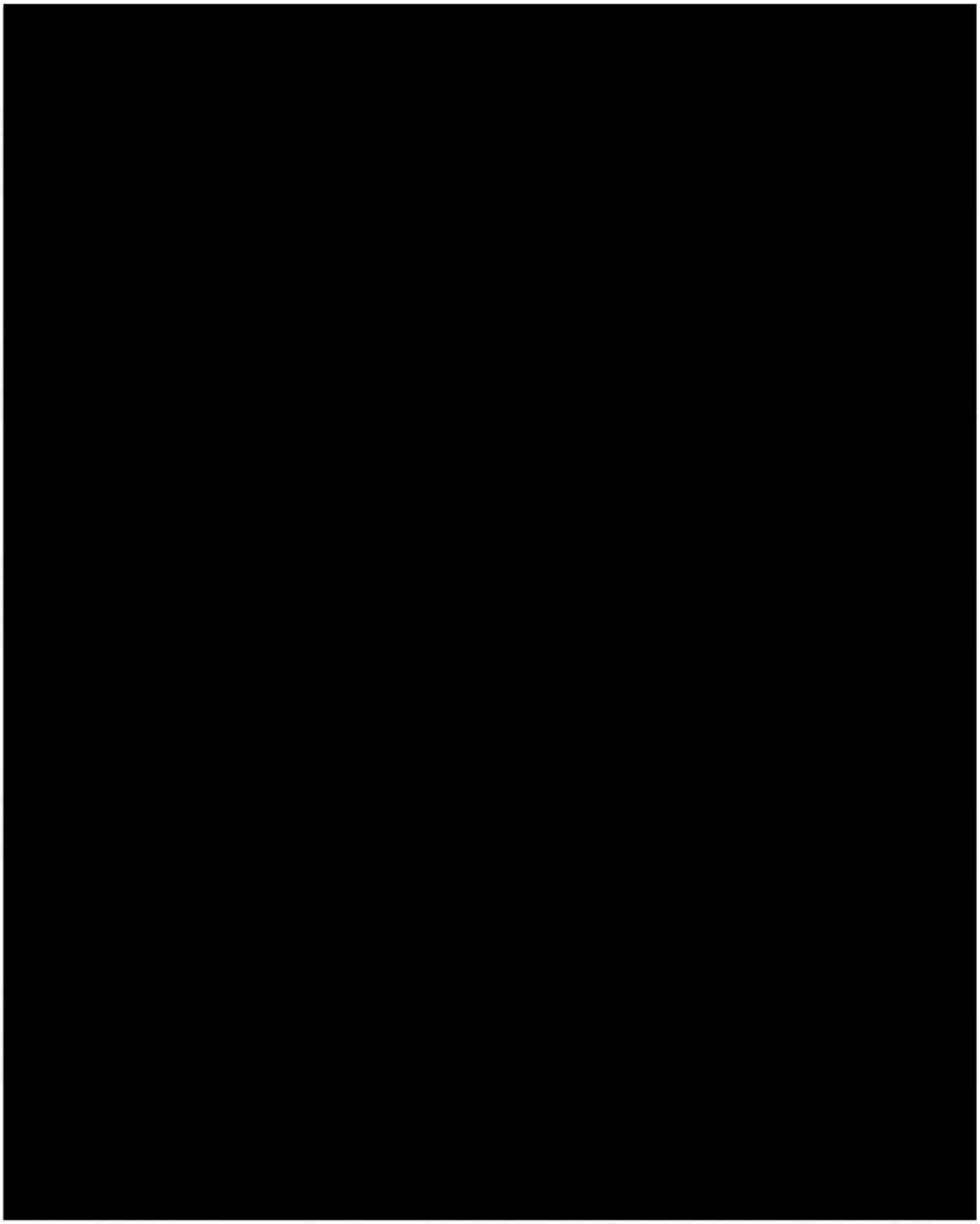


Figure A-1. Cultural resources location map for 5LR4460, 5LR4499, 5LR4503, 5LR4509, 5LR4511, 5LR4513, 5LR4514, 5LR10229, 5LR12634, 5LR12635, 5LR12636, 5LR12899, and 5LR12902.

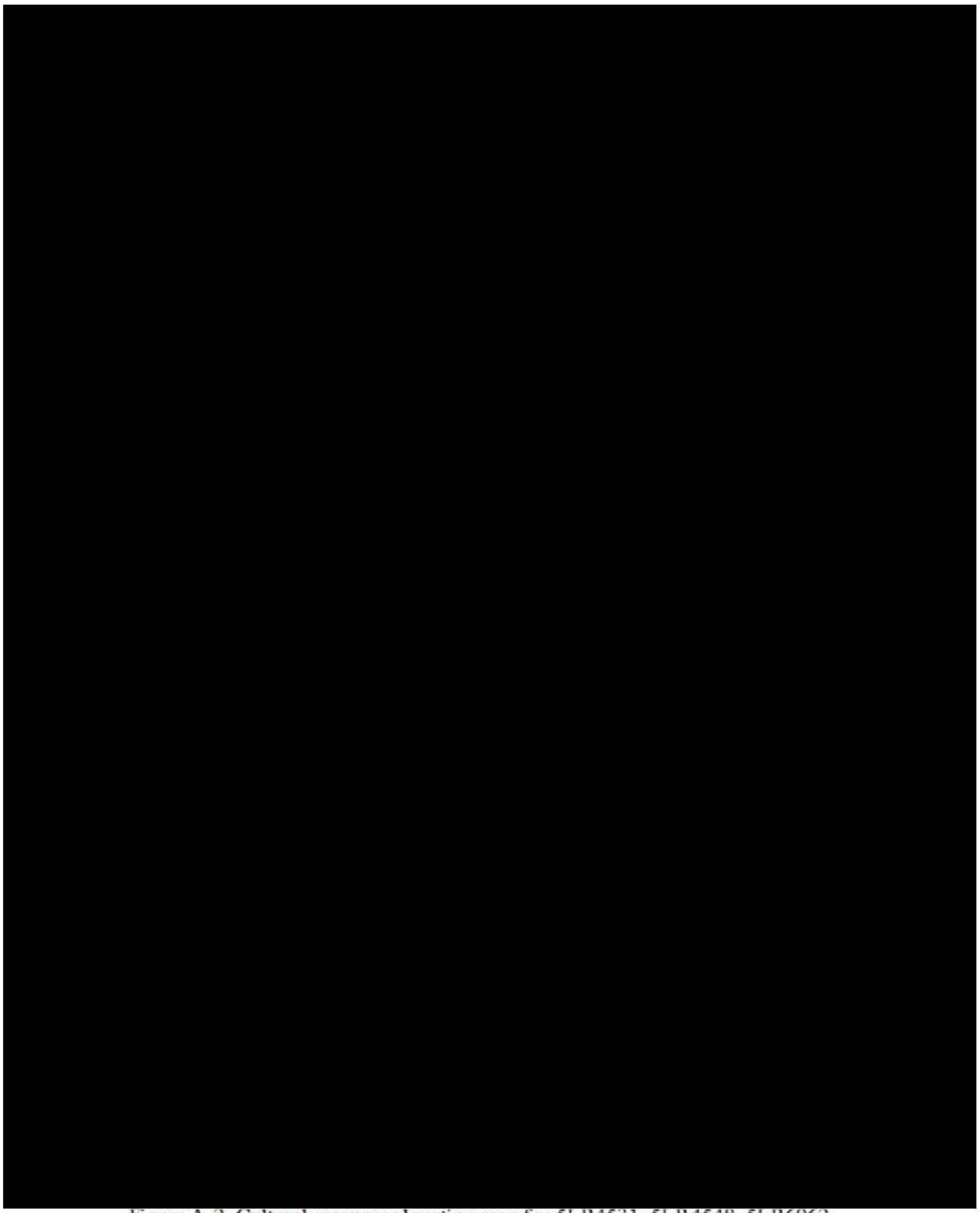


Figure A-2. Cultural resources location map for 5LR4531, 5LR4548, 5LR6962, 5LR12900, 5LR12903, 5LR12904

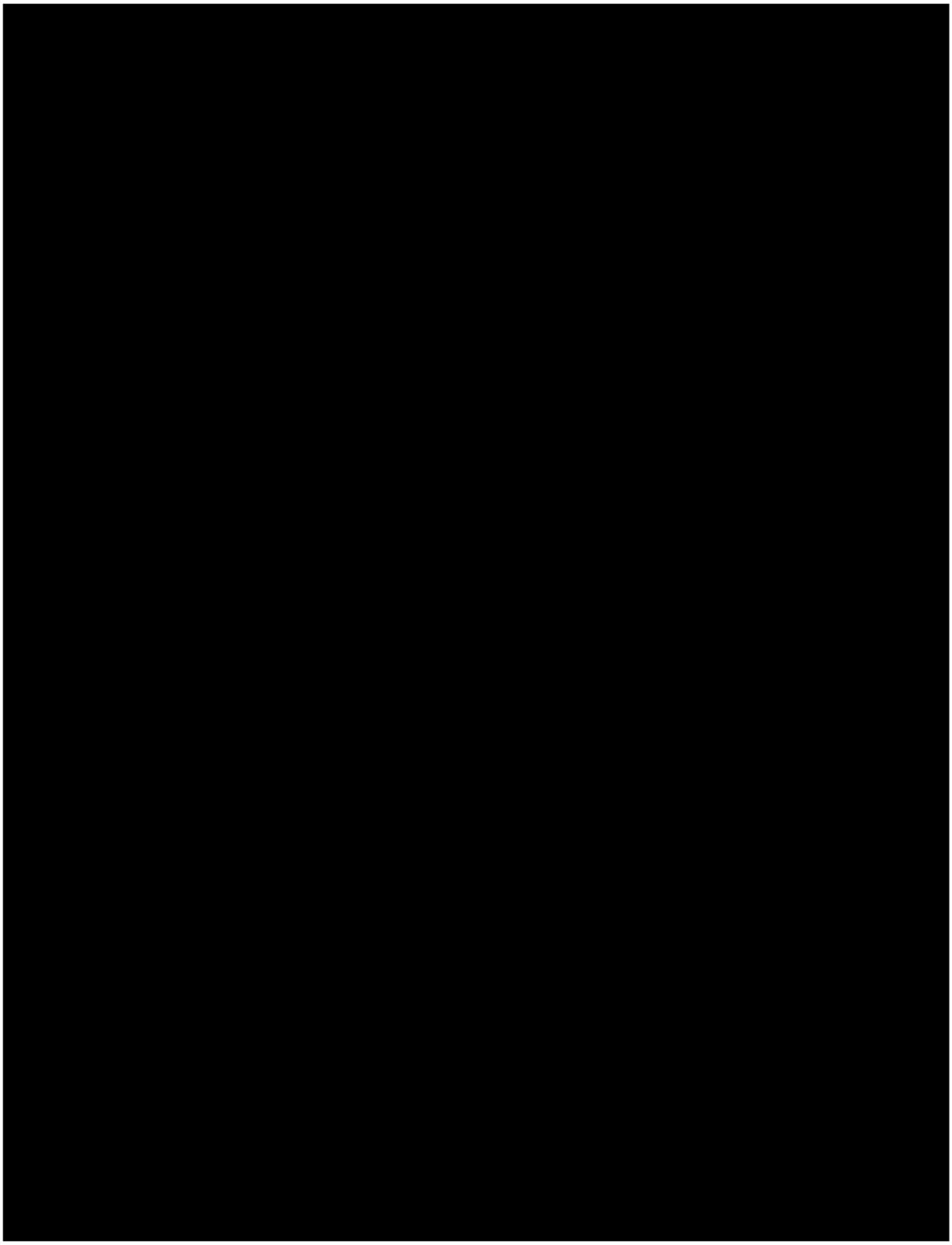


Figure A-3: Site Plan Map of 5LR4460 with UTM Data

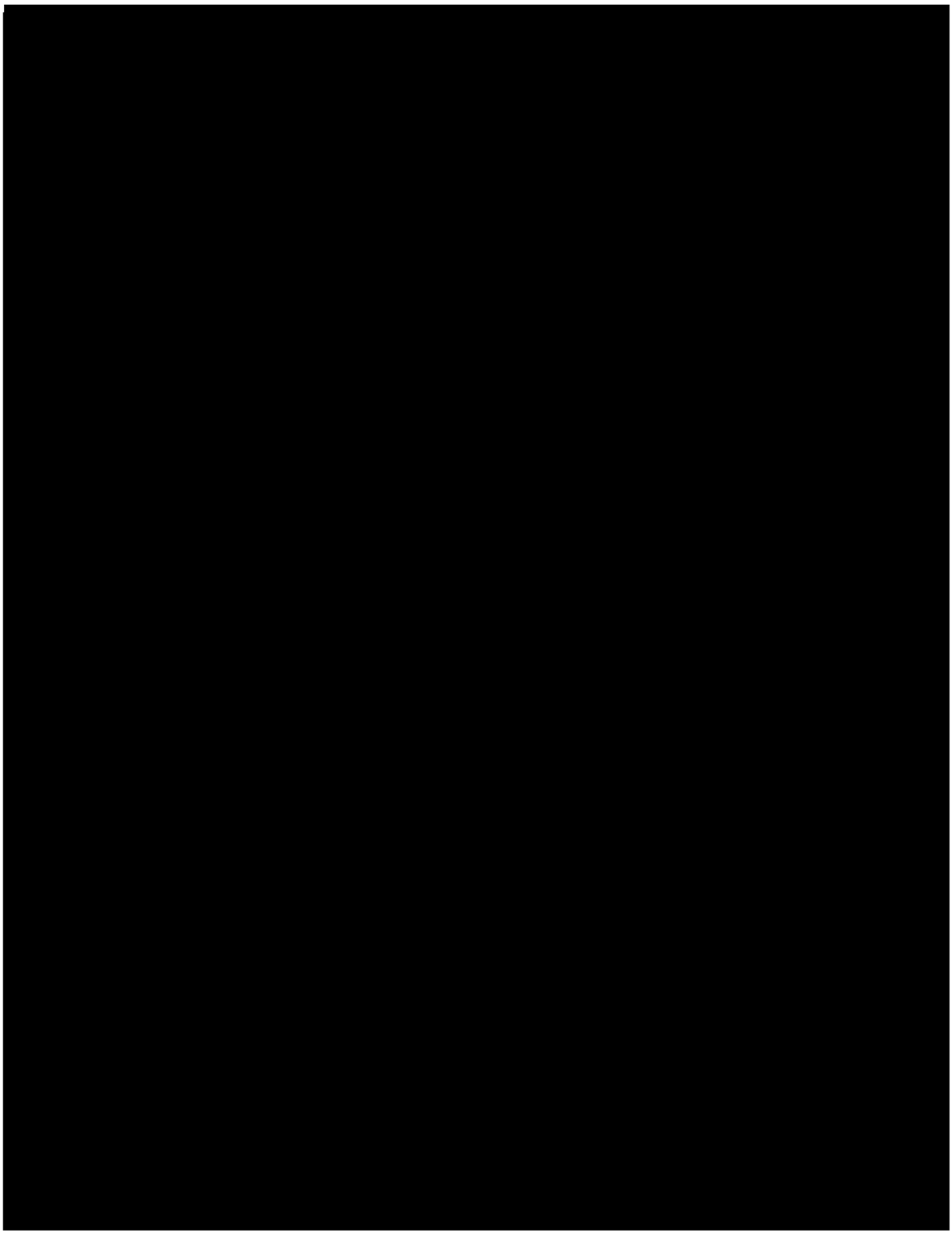


Figure A-4: Site Plan Map of 5LR4499 and 5LR12636 with UTM Data

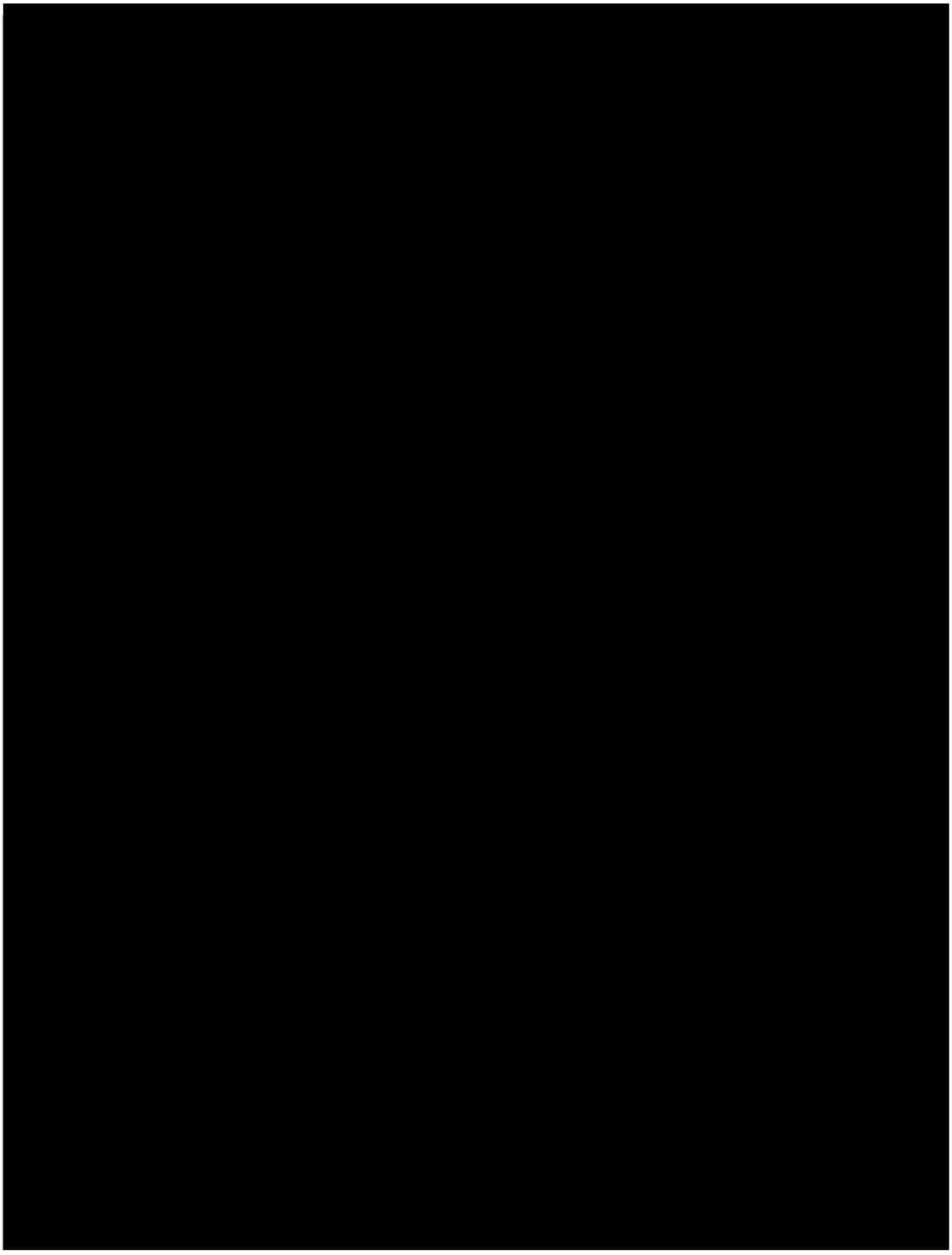


Figure A-5: Site Plan Map of 5LR4503 and 5LR12899 with UTM Data

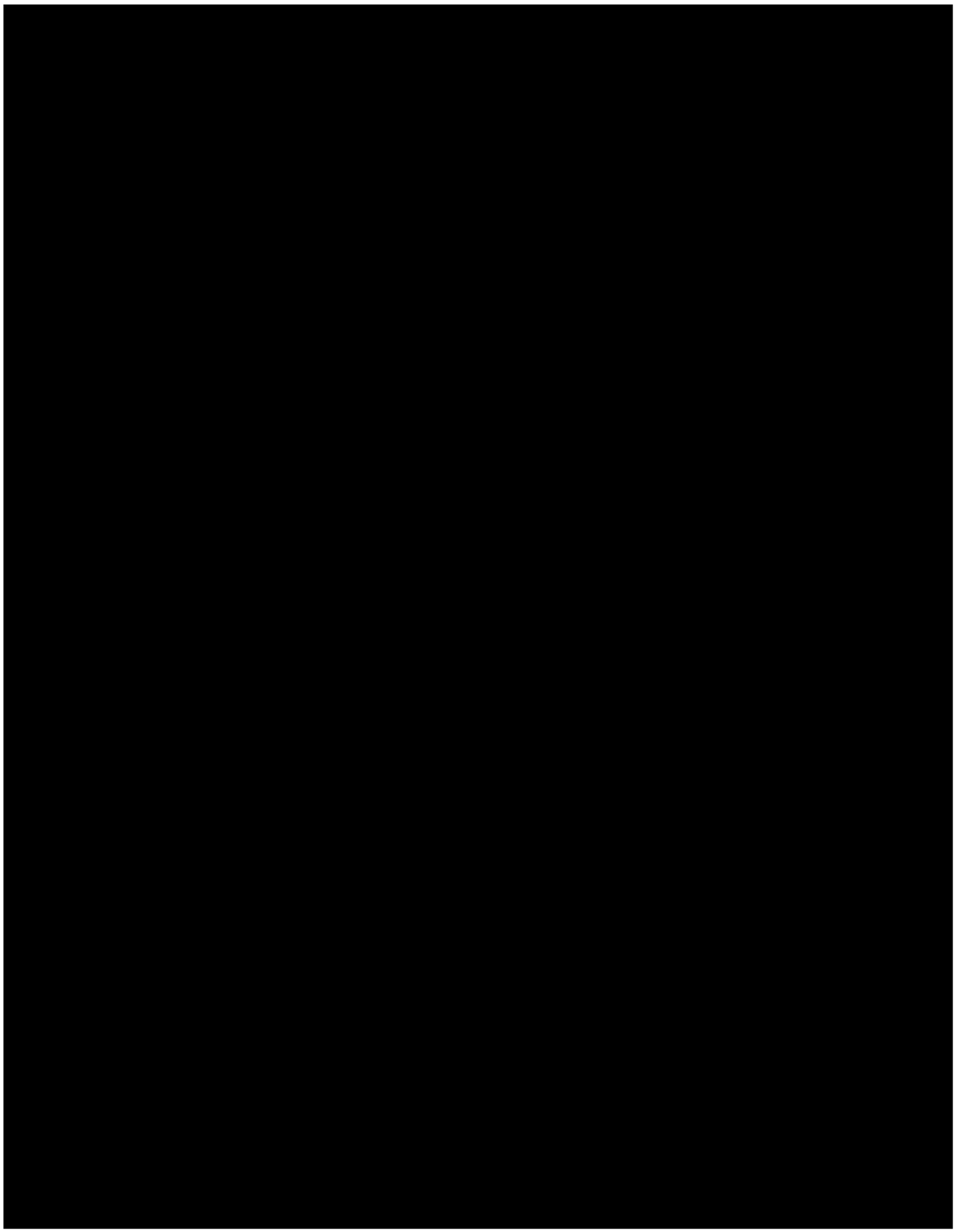


Figure A-6: Site Plan Map of 5LR4509 and 5LR12902 with UTM Data

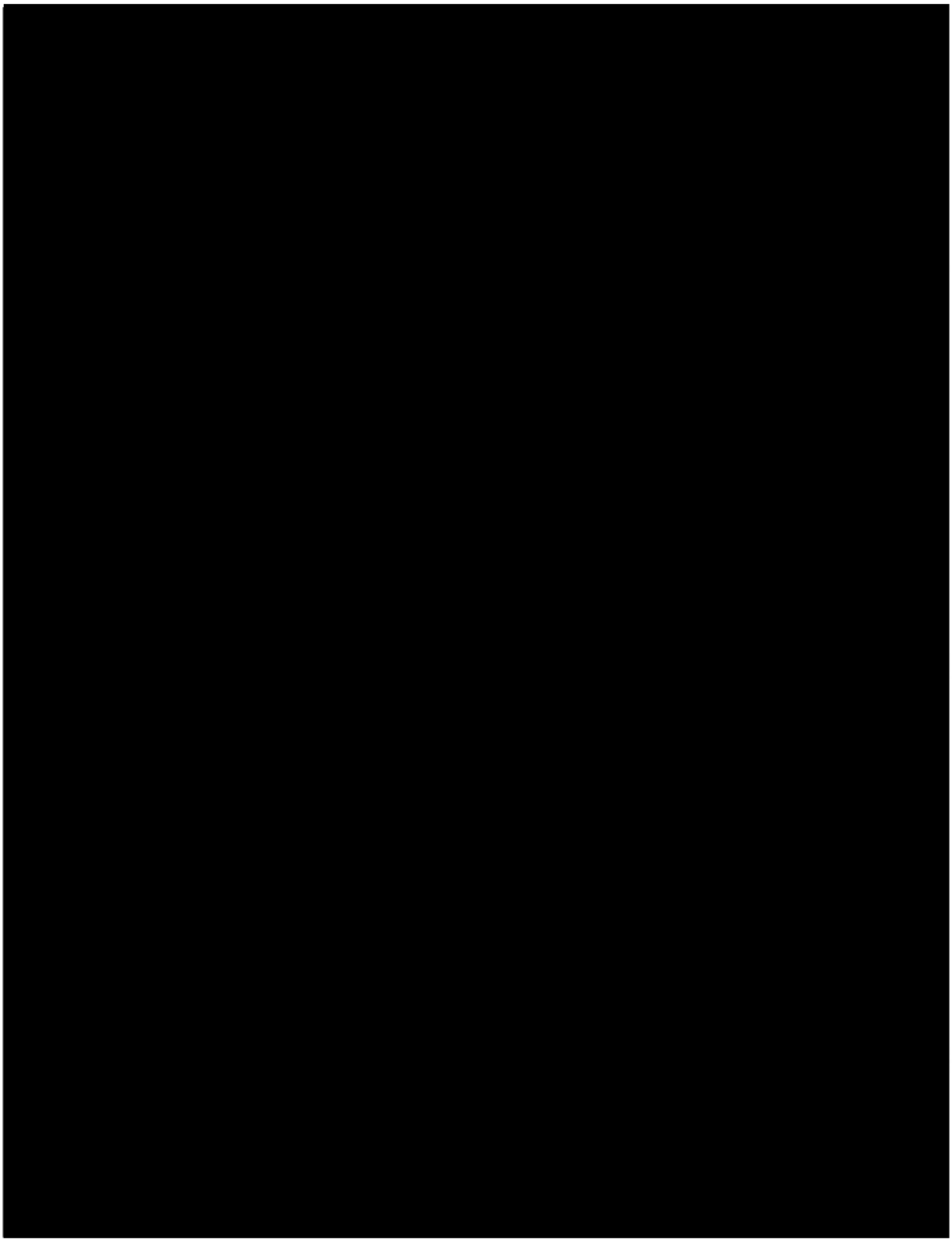


Figure A-7: Site Plan Map of 5LR4511 with UTM Data

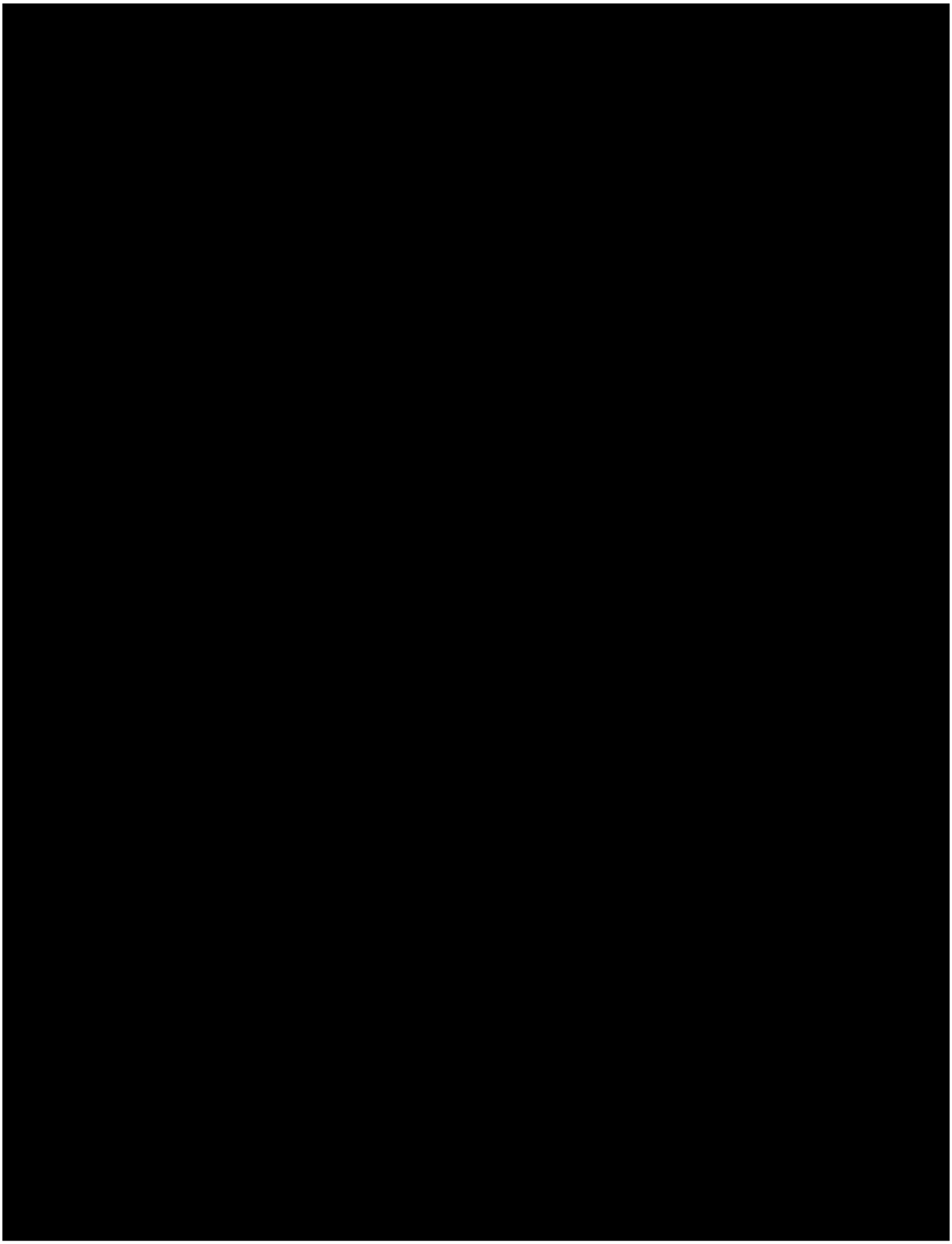


Figure A-8: Site Plan Map of 5LR4513 and 5LR4514 with UTM Data

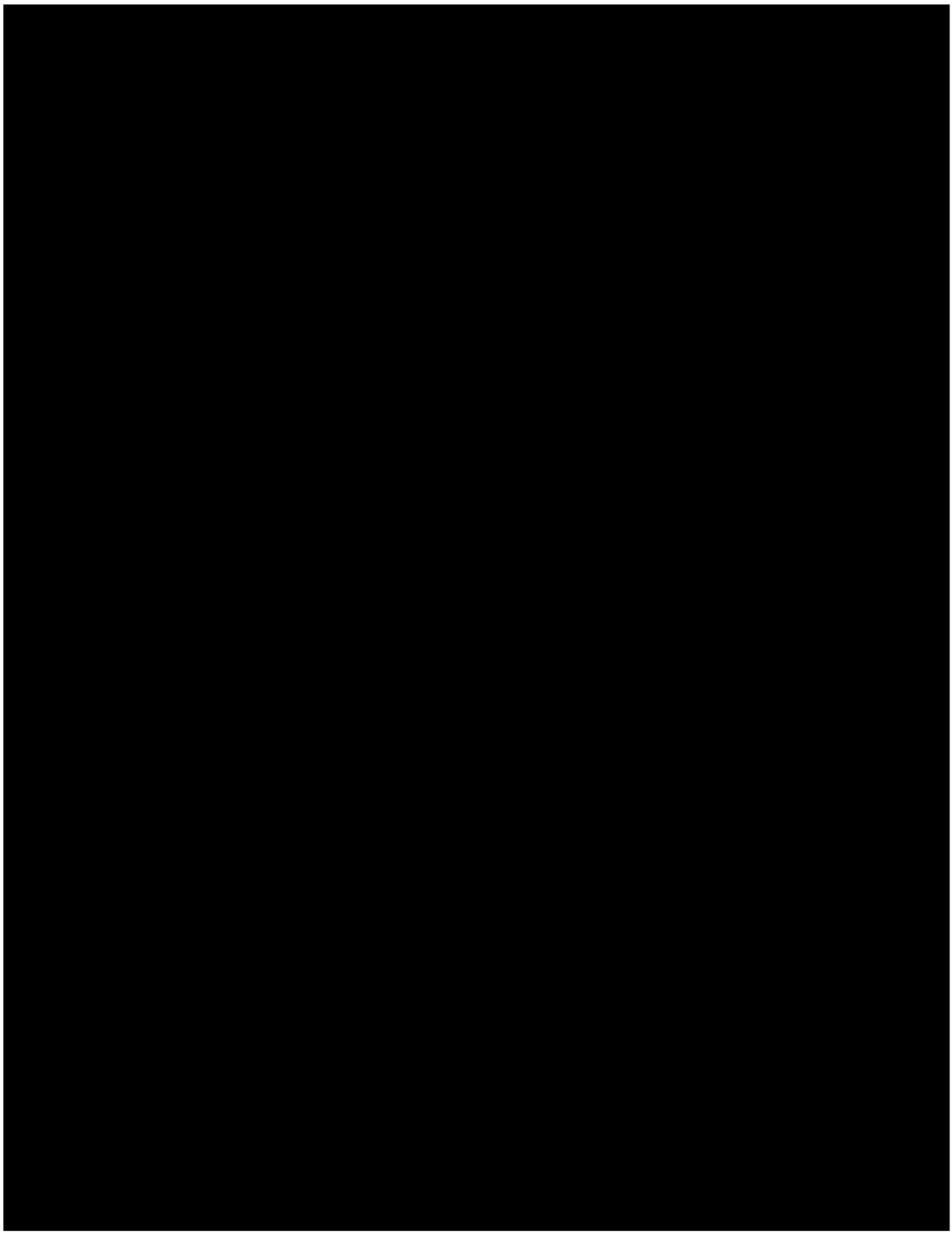


Figure A-9: Site Plan Map of 5LR4531 with UTM Data

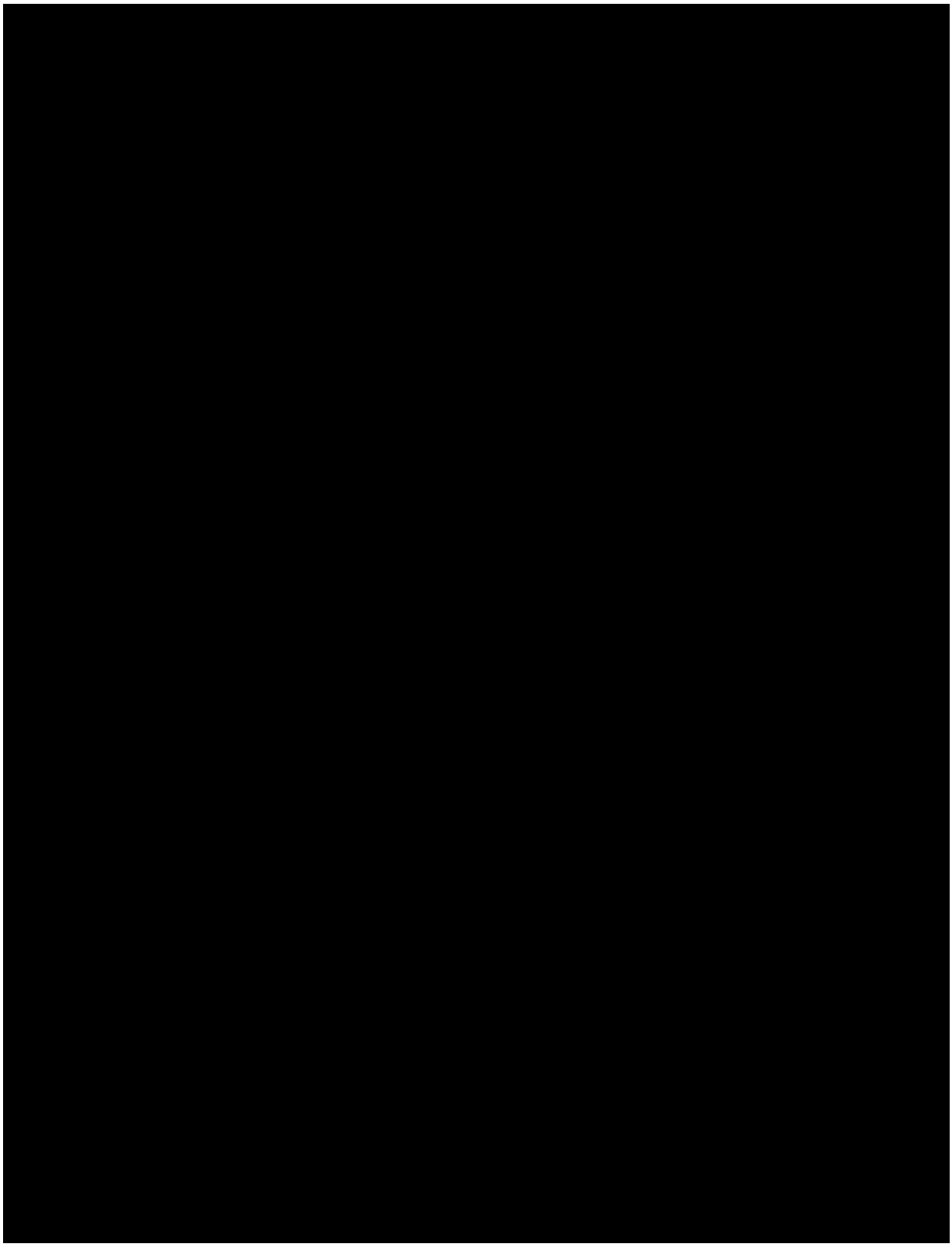


Figure A-10: Site Plan Map of 5LR4548 with UTM Data

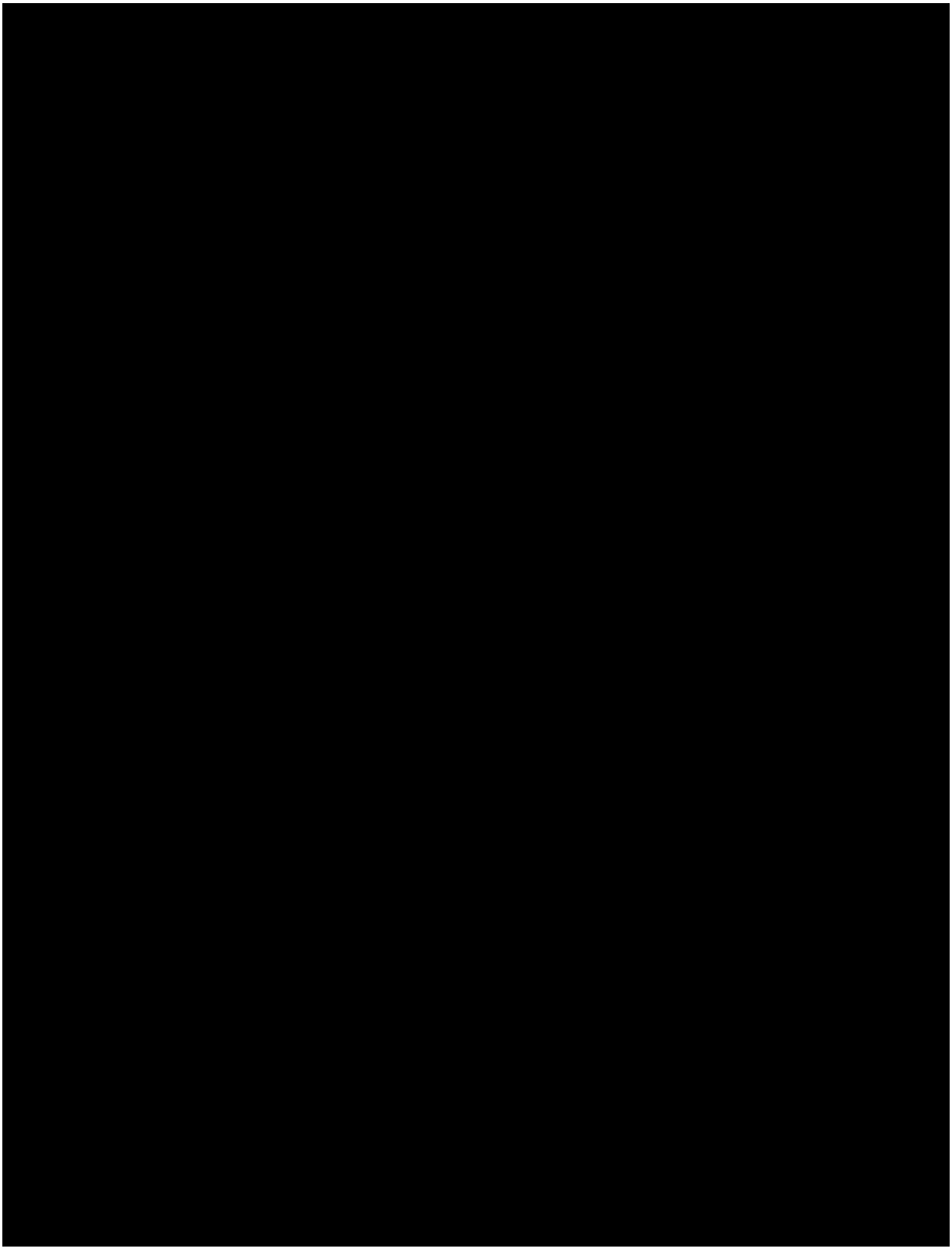


Figure A-11: Site Plan Map of 5LR6962 with UTM Data

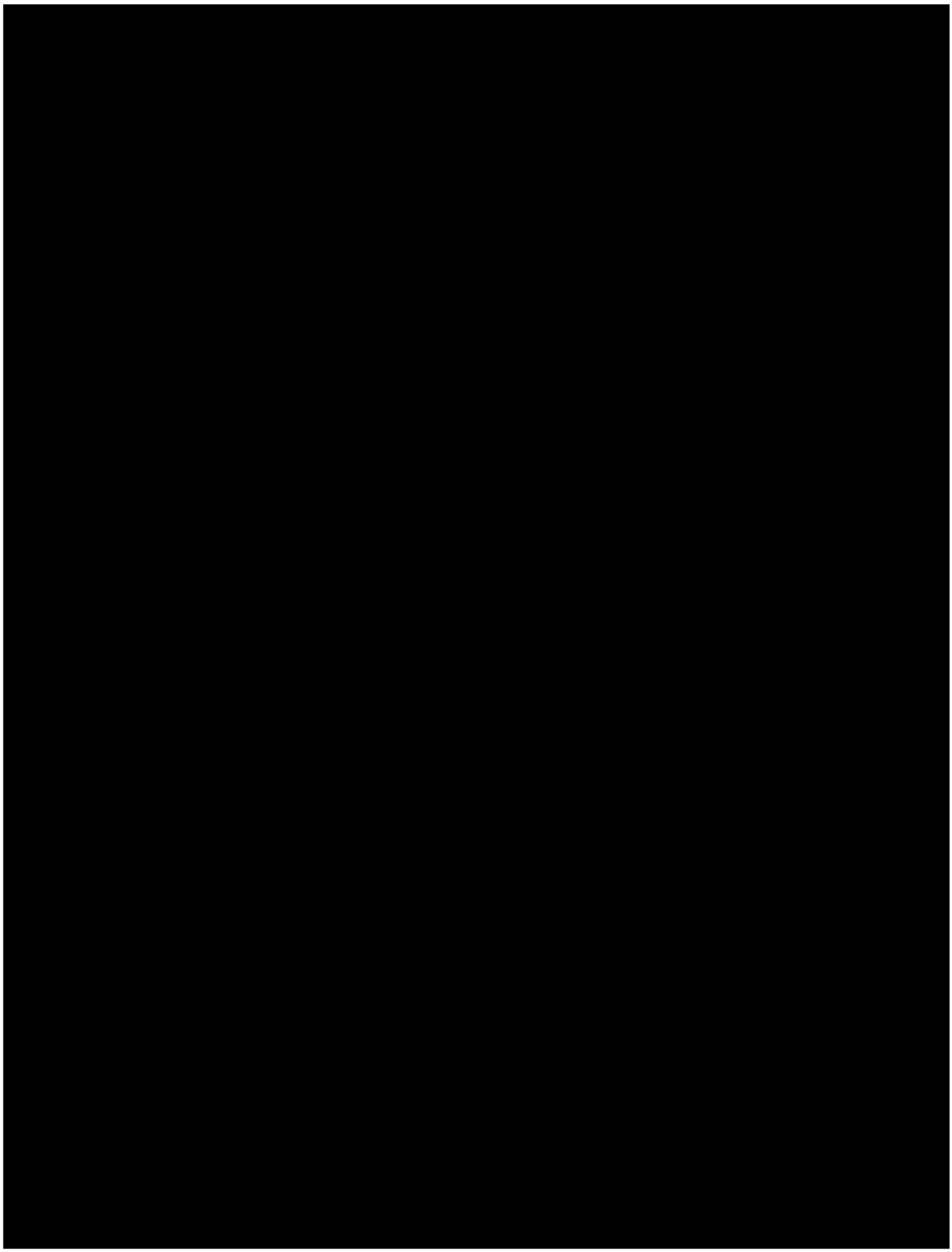


Figure A-12: Site Plan Map of 5LR10229 with UTM Data

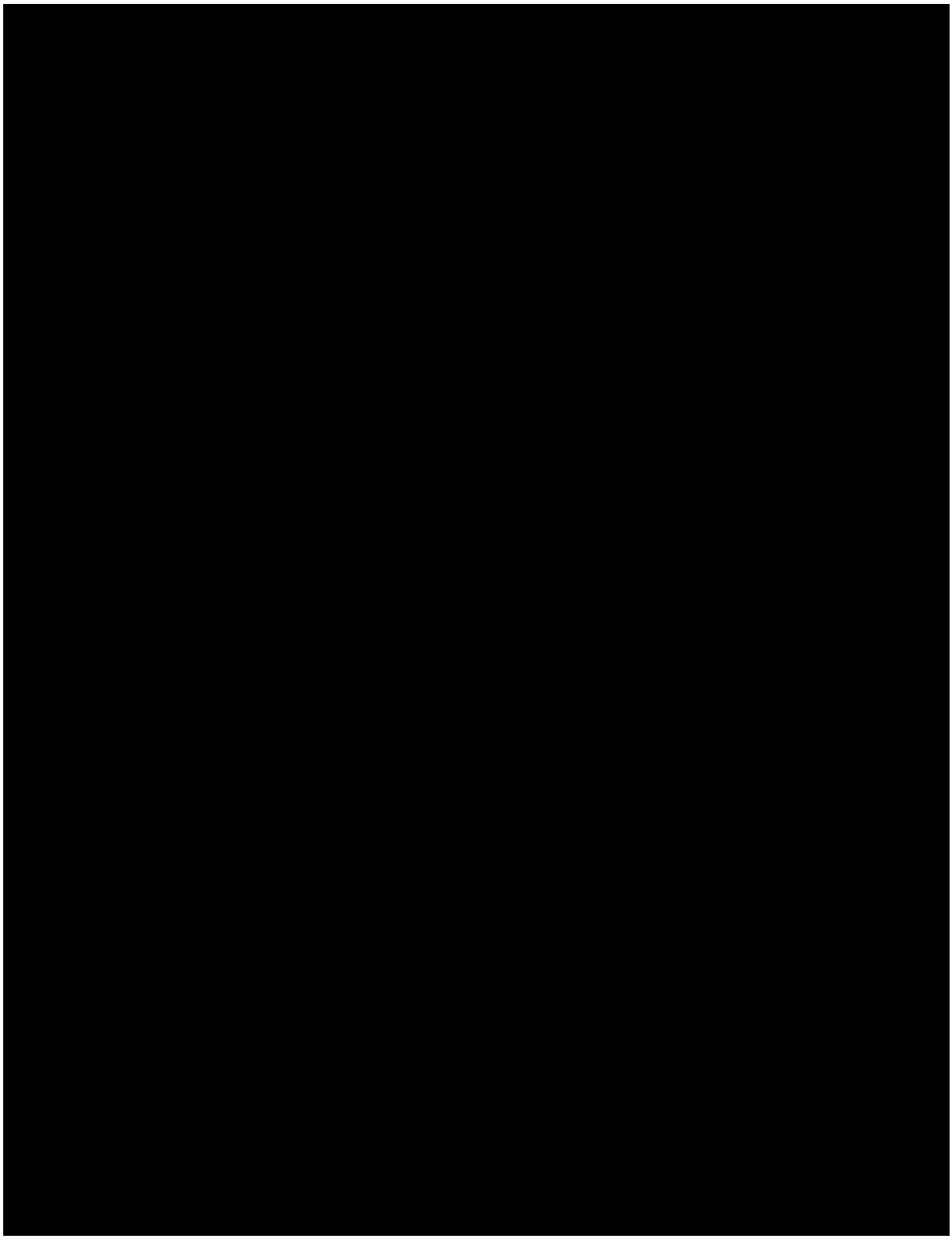


Figure A-13: Site Plan Map of 5LR12634 with UTM Data

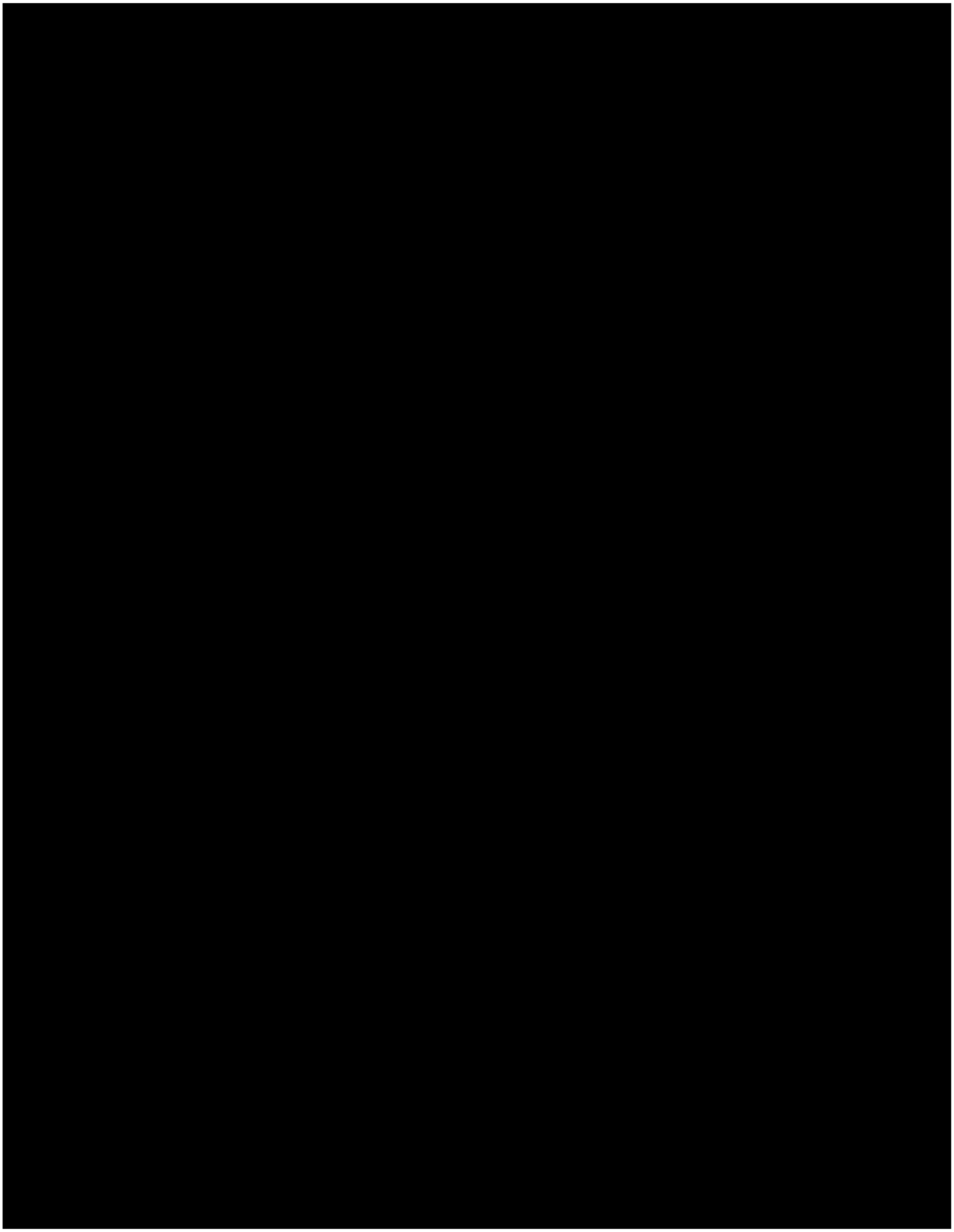


Figure A-14: Site Plan Map of 5LR12635 with UTM Data

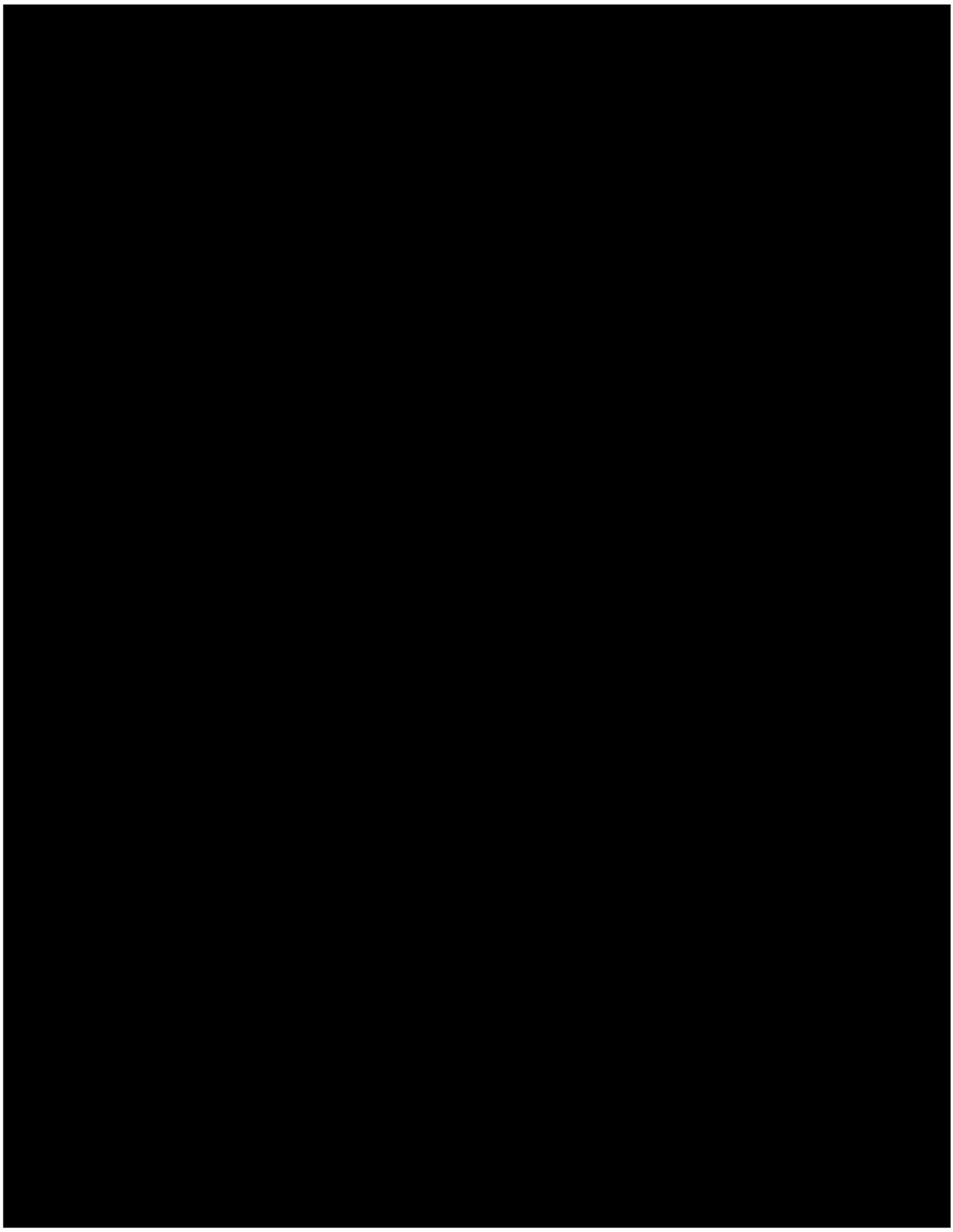


Figure A-15: Site Plan Map of 5LR12636 with UTM Data

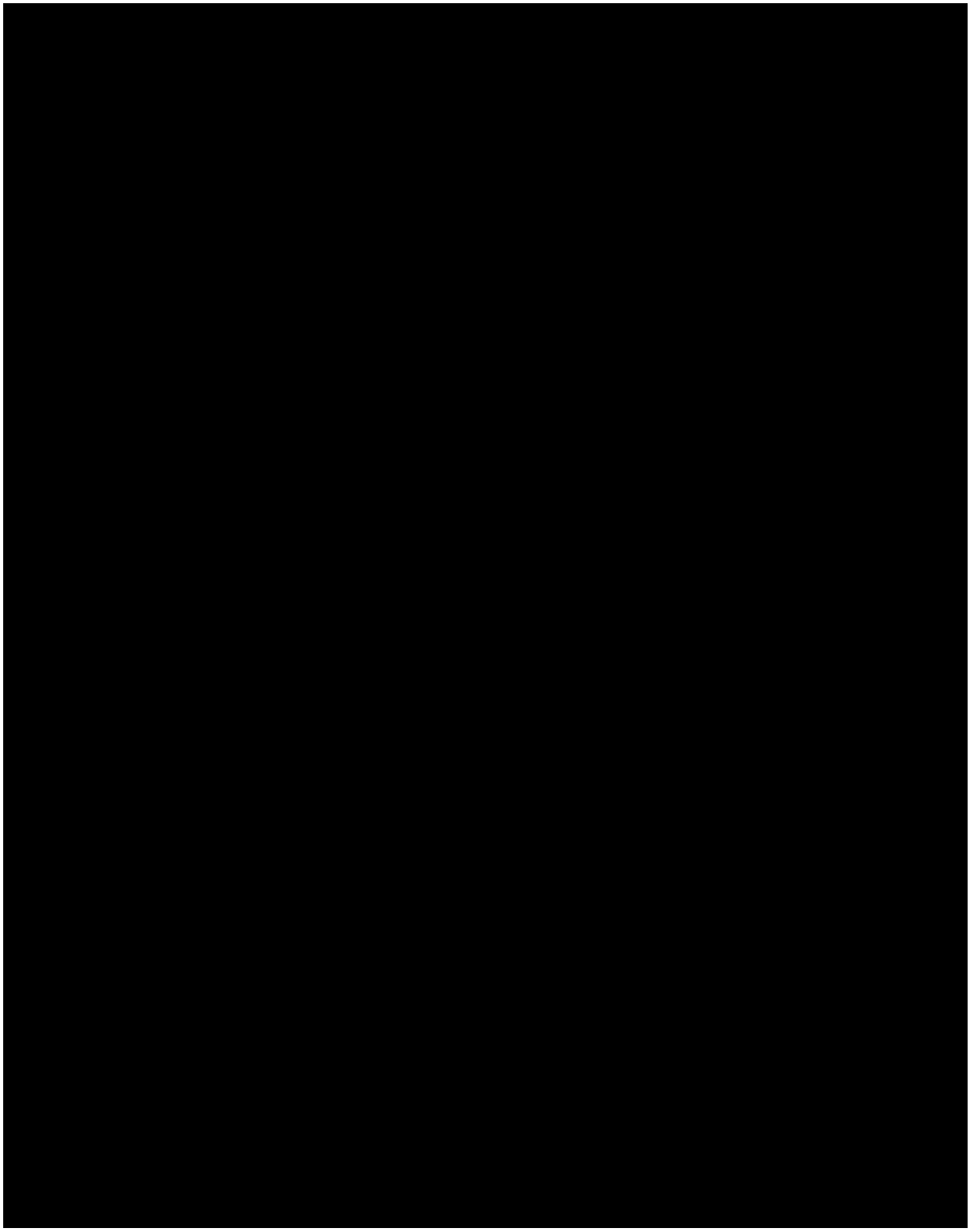


Figure A-16: Site Plan Map of 5LR12900 with UTM Data

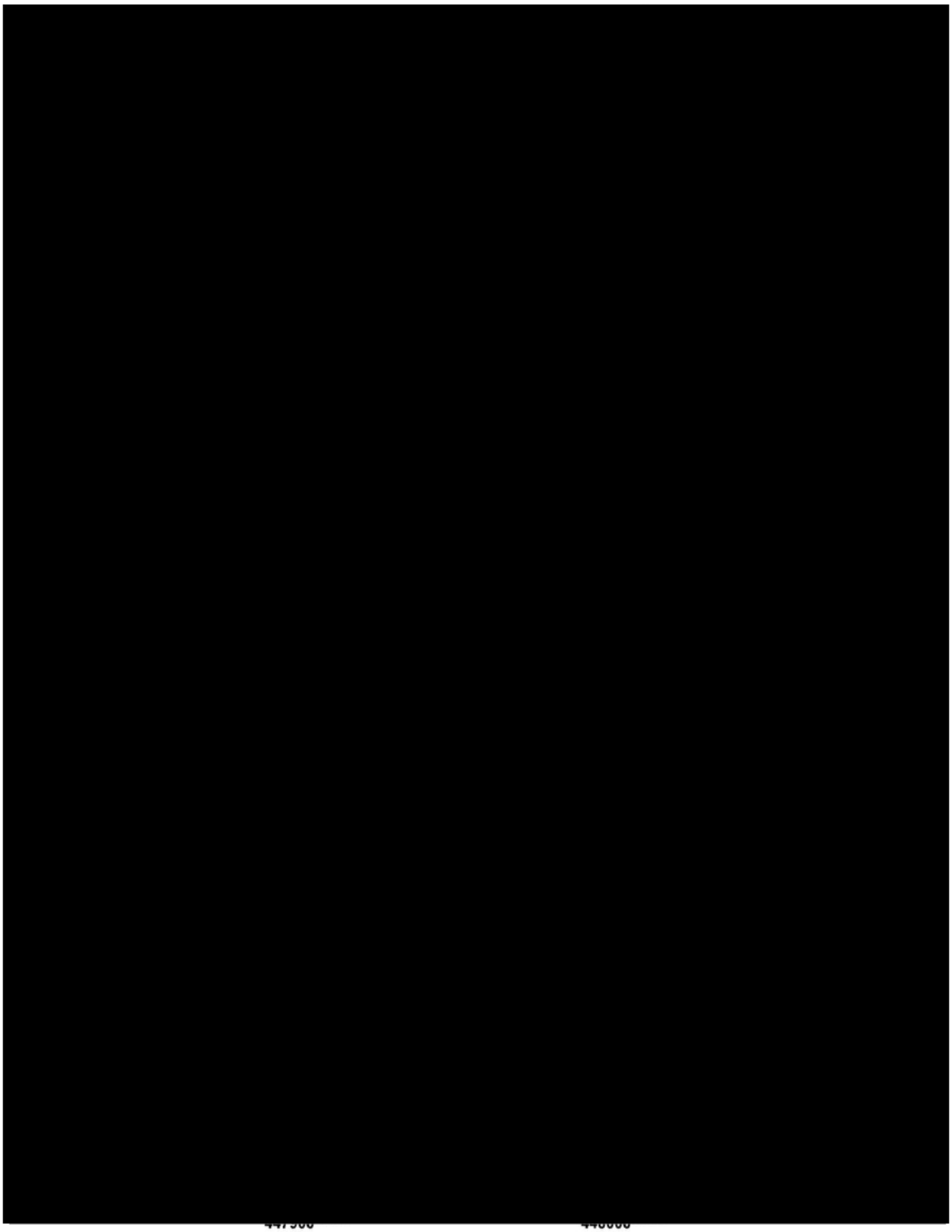


Figure A-17: Site Plan Map of 5LR12903 and 5LR12904 with UTM Data

B.

Appendix B: Photographic Plates

Plate 1
Feature A, boulder lean-to, at 5LR4460, the Hidden Valley Wickiups site,
looking east-southeast (Photo D1003, 1-21).

Plate 2

Top: 5LR4499 Feature 1, freestanding wickiup, taken in 1999, looking east.
Bottom: 5LR4499 Feature 1 taken in 2011, looking east. Disturbed soil is location of metal excavation grid pin located by metal detection (Photo D1003, 1-51).

Plate 3
Comparison photographs of Feature 1, a leaner-style wickiup, at site 5LR4509 taken in 1999 (top) and 2011 (bottom), looking east. Note how one of the standing poles from the group of three on the left in the 1999 photo has fallen and disappeared from the ground surface along with a number of other timbers, including what may have been a collapsed wickiup to the left of Feature 1. (Photo D1003, 3-16).

Plate 4

Top: 5LR4509 Feature 4, in the foreground, and Feature 5A, in the background on the left—both aspen pole caches, looking north (Photo D1003, 3-28).

Bottom: 5LR4509 Feature 6, a "classic" cache of seven aspen poles, looking northeast. Note how the poles are placed close together and near to the tree trunk (Photo D1003, 3-31).

Plate 5
5LR4511, Feature 1, collapsed wickiup, looking north-northwest.
Note how conical nature of wickiup is preserved in the pole configuration
(Photo D1003, 5-73).

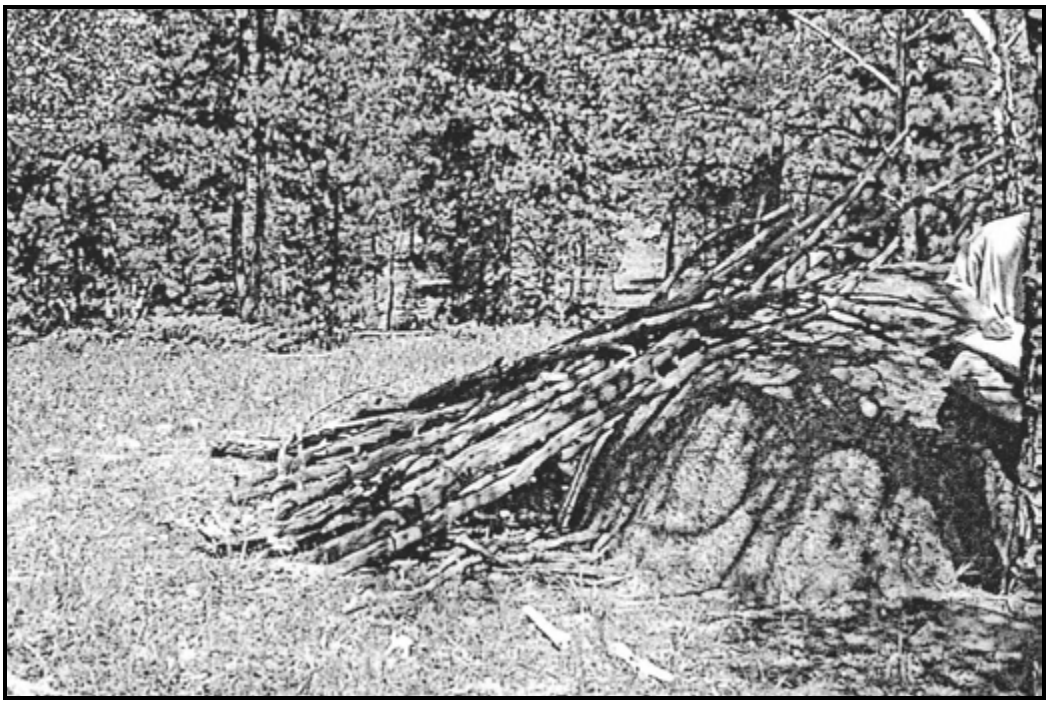


Plate 6
Comparison photographs of Feature 1, a boulder lean-to, at site 5LR4514 taken in 1999 (top) and 2011 (bottom), looking southeast. Note how the standing poles from 1999 have collapsed, scattered, and partially disappeared from the ground surface. (Photo D1003, 5-80).

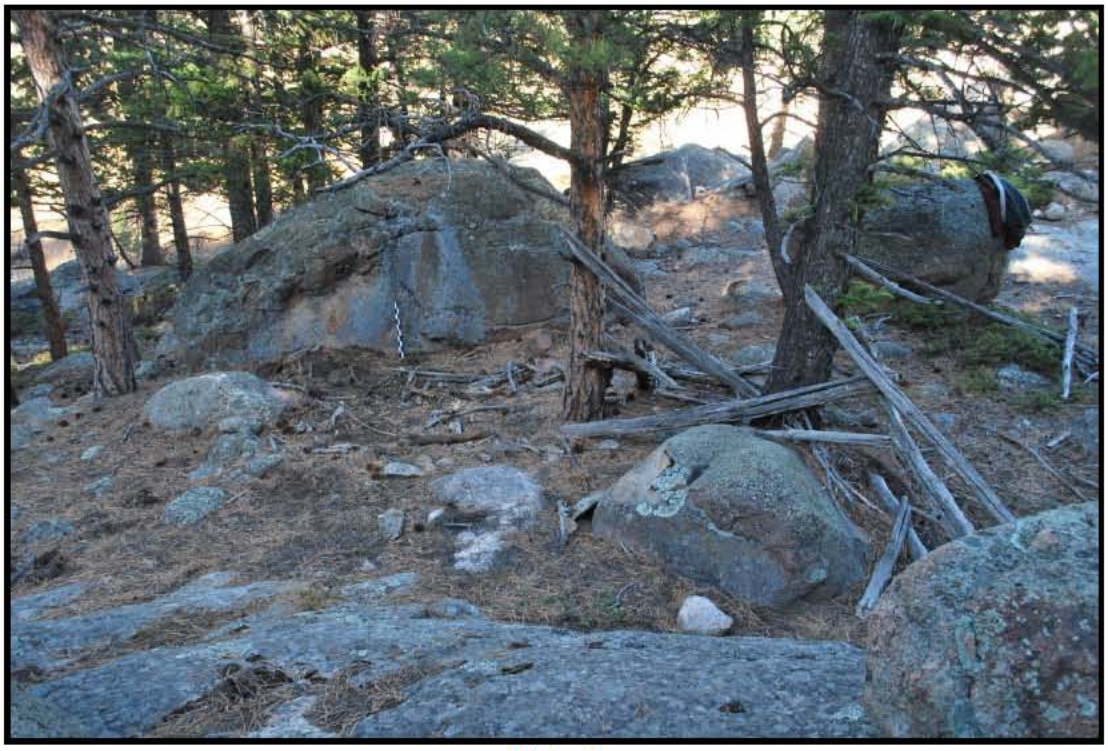


Plate 7

5LR4531 comparison photos. Feature 2, a modern windbreak, can be seen on the right in the 2010 photo (bottom). It was likely created from poles that were appropriated from Feature 1, what had originally been a boulder lean-to shelter, leaned against the rock to the left of center (see 1999 photo at top). Note ash scatter in front of the boulder that turned out to be a modern disposal of a human cremation. Photo is looking north-northeast (Photo D1003, 1-100).

Plate 8

Top: 5LR4548 Feature 1, animal entrapment, looking northeast. Presumably a baited metal leg trap was placed within the V-shaped walls of the feature. (Photo D1003, 5-57).
Bottom: 5LR4548 Feature 2, partially collapsed wickiup, looking southwest. (Photo D1003, 5-62).

Plate 9

Top: 5LR6962 Feature 2, culturally-modified ponderosa pine tree, is at left and Feature 1, pole cache is at right in background, looking north-northwest. (Photo D1003, 6-13).
Bottom: 5LR12635 Feature 1, culturally-modified ponderosa pine, looking north. Note how feature is more typical of a Ute bark peel that the ax scar at 5LR6962. (Photo D1003, 1-45).

Plate 10

Comparison photos of Feature 1 wickiup, site 5LR10229 taken in 2001 (top) and 2010 (center: Photo D1003, 1-10), looking south. Note how several of the collapsed poles in the earlier photo have been erected and rested against support tree. Bottom photo is whittled stick.

Plate 11

Photographs of two examples of the modern "tipi frames" that are being constructed by tourists in Rocky Mountain National Park (Photos D1003, 5-06 and 5-26). The structure in the bottom photo, according to a frequent park visitor, was not in existence in August of 2010.

Plate 12

The two premier standing wickiups from the project.

Top: 5LR12899, the Lightning Bear Wickiup, looking northwest (Photo D1003, 4-30).

Bottom: 5LR12900, the Tea House Wickiup, looking northwest (Photo D1003, 5-38).

Plate 13

Two additional views of the Tea House Wickiup (5LR12900, Feature 1).
Top: panoramic showing the proximity of the Park & Ride facility to the wickiup, looking east (Photo D1003, 7-7).
Bottom: The interior of the wickiup showing three of the five pine trees that have grown up through the floor of the feature, looking north-northwest. Note the boulder and aspen sticks resting on the floor (Photo D1003, 5-89).

Plate 14
5LR12903, Feature 1, collapsed wickiup, looking south. Note how the conical nature of the wickiup is preserved in the "wheel spoke" configuration of the collapsed poles (Photo D1003, 4-41).

C.

Appendix C: Example of an Aboriginal Wooden Feature Component Form

Aboriginal Wooden Feature Component Form

Complete one form for each structure and attach to a completed
Colorado Cultural Resource Inventory Management Data Form and Prehistoric Archaeological Component Form.

(check as many categories as apply)

1. Site #:_____ **2. Name:** _____**3. Feature #:**_____

4. Previous/Temp Site/Feature Nos:_____

5. Location (UTM): NAD_____ Zone:_____;_____mE;_____mN

6. Type of Feature: Wickiup___; Utility poles___; Pole cache___; Tree platform___; Ramada___; Lean-to___ Woodpile ; Wall tent___; Tripod___; Brush enclosure___; Windbreak____ Other (describe)_____

7. Inferred Function: Habitation_____; Windbreak_____; Utility pole/rack_____; Menstrual hut_____; Sun shade____; Hunting blind____;Storage platform____; Burial platform____; Corral/Animal pen____; Drift fence____; Sweatlodge ; Pole cache___; Firewood____; Other (explain)_____

8. Justification for Inferred Function: _____

9. Configuration: Freestanding____; Leaner____; Pull-down____; Suspended in tree____; Other (describe) _____

_____

10. Condition: Standing___; Partially collapsed____; Collapsed____; Comment_____

11. Total # of Poles:_____ # standing/leaning_____; # collapsed_____; # *completely* suspended by tree/other poles___

12. Pole Ends (# of each): Decayed_____; Broken_____; Axe cut_____(metal axe?_____stone axe?_____); Sawn ; Uprooted_____; Burned_____; Undetermined_____; Comment_____

13. Are one/two poles significantly longer than others (extending away from feature as a rack or hanger)?_____ **if so:** length_____m; mid-pole diam:_____cm; Comment:_____

14. Range of *Other* Pole Length(s):_____to _____m **15. Range of Mid-Pole Diameter(s):**_____cm to_____cm

16. Pole Modification: Completely limbed ____; Partially limbed (some present) ____; Un-limbed _____; Split/shaped __; Comment:_____

17. Interlocked Forked Poles as Structural Supports? (number)**:**____; Description: _____

18. Pole Species (#): Juniper____; Piñon____; Undeterm P/J:____; Aspen____; Lodgepole____; Undeterm evergreen_____ Other: _____

19. Species Determ. By: Visual____; Bark___; Foliage___; Odor when heated____; Odor when cut/drilled____; Other__

(caution—old dead piñon often looks like juniper)

20. Pole Condition (check all that apply): Lengthwise grain separation_____; Cracking across grain_____; Sagging___; Crumbling___; Highly decomposed___; Lichens___; Moss____; Comment_____

21. If standing poles: Top end of poles–height above ground: _____, _____, _____, _____, _____, _____m
Pole height at contact w/ support element: _____, _____, _____, _____, _____, _____m
Base of poles–dist. from support element _____, _____, _____, _____, _____, _____m
Angle of poles–relative to ground: _____, _____, _____, _____, _____, _____°

22. If platform/horiz. beams: Height(s) above ground:_____, _____, _____, _____, _____m
Comment:_____.

23. Floor/Platform Plan: Circle____; Semi-circle_____; Oval;___; Triangle____;Rectangle____; Square_____; Irregular___; Indeterminate_____; Comment:_____

24. Dimensions: Internal height (headroom):_____m; Internal diameter (if circular floor plan):_____m **OR…** Length_____m (direction_____);Width_____ m (direction_____) **25. Floor/Platform Area:**_____square m

(Circle=3.14 x radius-squared; Oval=length x width x .785; Triangle=height x ½ the base)

26. Floor Treatment: Bark Mat____(diameter & thickness:_____cm x _____cm); Excavated basin____; Packed soil__; Other (describe)_____

27. Trowel tested/excavated? (describe)_____

_____

28. Degree of Slope at Structure:_____°Direction_____ Comment_____

Site Number:_____ **Feature Number:** _____.

29. Nature of Entry If Discernible (*space between poles? lintel or sill?***):**

30. Entry Orientation (direction):_____**31. Entry Dimensions:**_____cm (height) _____cm (width)

32. Evidence of Covering? (*eg. Suspended cross-beams or small branches? Rocks, branches, brush or bark at base of poles?*)_____(if so, describe):_____.

_____

33. Support/Canopy Tree Species (give # of "Support" & # of "Canopy"): Juniper_____; Piñon_____;
Other (name species, # of "S" & "C")_____.
Condition of tree(s) (number): Living _____; Dead_____ Status of tree(s) (number): Standing_____; Fallen_____.

34. Diam. of Support/Canopy Tree(s) Near Base:_____, _____, _____, _____ cm **35. Approx. Heights:**_____m

36. Compass Direction(s) of Support/Canopy Tree(s) From Feat:_____, _____, _____, _____

37. Cultural Modification of Support/Canopy Tree: Peeled bark___; Limbed within int. of structure___; Ax cuts__;
Limbed elsewhere____; Horiz. circumferential cut marks_____; Other (describe)_____.

38. Parts of Support/Canopy Tree Utilized By Feature: Trunk(s)_____; Limb(s)_____; Trunk & Limb(s)____; Poles supported by other poles_____; Partially broken/bent down limbs____; Other (describe)_____.

39. Hearth?: Basin_____; Ash stain_____; FCR_____; Slab-lined_____; Rock-filled_____; Rock ring _____.
Describe:_____.

40. Location of Hearth: Interior____; Exterior____ ; Comment:_____.

41. Location of *Interior* Hearth: Center of feature_____; Other *(eg. "inside entry", "adjacent to W wall", "base of tree)*:

_____

42. Distance of *Exterior* Hearth Relative to Center of Feature:_____m **Direction from center of feature**: _____.

43. Hearth Dimensions:_____ X _____cm **44. Hearth Tested?** (describe)_____.

_____

45. Potential for *ax-cut* tree-ring dates: Poor (no ax cuts)___; Good___; **No. of ax-cut elements**:____**No. collected**: __

46. Rocks Associated with Feature (number): Interior_____; Exterior perimeter (e.g. base of poles)_____; Other____
Describe type, form, size (eg. "two 15cm diam. river cobbles", "one 14 x 12 x 8cm sandstone slab")**:** _____.

_____

Inferred purpose/comment: _____

47. Associated Artifacts (describe): Inside or under feature_____.

_____

Outside feature _____

_____

Diagnostics on site (give FS#):_____

_____**Was feature area metal detected?** Yes ____No ____

48. Collections at Feature (give FS #): Artifacts_____

_____

Dendrochronology_____ (Metal axe-cut?____); Radiocarbon_____
Soil/flotation_____; Thermoluminescent_____
Other/describe_____

49. Est. Age and/or Cultural Affiliation of Feature:_____

_____

Based on_____

_____

50. Noteworthy/Unusual Attributes of Feature: _____

_____

_____

Site Number:_____ **Feature Number:**_____

51. Changes since last recording: _____

_____

52. Imminent Threats to Feature: Construction____; Collapse ____; Decay____; Erosion___; Vandalism___; Fire __; Grazing____; Wildlife (deer/elk beds etc.) ____; Beetle kill (*piñon or pine support/canopy?*)____; Comments:_____

_____

53. Mitigation Recommendations: Addt'l recording___; Excavation___; Sample collection____; Other (describe)____

Comments_____

54. Photos: B&W negs/prints_____; Color negs/prints_____; Color transparency/slides_____; Digital_____

Roll/disc(s) No./Exp. Nos._____

On file at: _____

55. Addt'l Documentation: Feature plan view____; Feature elevation drawing ____; Other _____

Attached?_____ On file at_____

56. Recorder(s)_____

Date(s)_____**Affiliation**_____

57. Previous Recordings (give details): _____

_____

58. Photo Description:_____

_____

Photo Direction:_____**Date:** _____

Photo Reference (**roll/exp):**_____

Site Number:_____ **Feature Number:**_____

59. Additional Comments/Sketches or Continuations (note Item number from form above):

*** Remember, this structure may be gone before it can be recorded again! ***

D.

Appendix D:
OAHP Re-evaluation, Management, Prehistoric Component, and Aboriginal Wooden Feature Component Forms

[the information in this appendix is proprietary and is available only to land management agencies]