ABSTRACT

Between June 30 and July 23 of 2003, a Class III cultural resource inventory (Museum Accession Number GRKO-1426) was conducted in an approximately 1600-acre area of study within the Grant-Kohrs Ranch National Historical Site (24PW118). The inventory was conducted by The University of Montana, Department of Anthropology, for the National Park Service. During this inventory, four previously identified prehistoric sites and sixteen previously identified historic sites were revisited and their status updated, and eight previously unidentified historical sites and sixteen isolated historic and prehistoric artifacts and features were located and recorded (Volume 2, page __). Recommendations regarding cultural resource management are detailed below in the section entitled Recommendations. Sensitive information regarding specific site locations, such as maps, UTMs and photographs that may reveal such information, are included in a separate volume, A Class III Cultural Resource Inventory of the Grant-Kohrs Ranch National Historic Site Volume 2: Appendices to Volume 1, not to be released to the public or unauthorized personnel.

I. INTRODUCTION

I.A. Prehistoric Overview

The project area, as defined by Tom Roll (1982), is located in the Barrier Falls subarea of the Interior Plateau Archaeological Area. This subarea covers most of western Montana, northern Idaho, and some of southern British Columbia (Figure__). Approximate in size to Carling Malouf's (1956) Montana Western region, the Barrier Falls subarea differs in that it excludes the Columbia River. The reason for this is the absence of salmon, a critical resource along the Columbia, in the Barrier Falls subarea (Roll 1982).

The earliest known people to occupy the region are often referred to as Paleo-Indians by contemporary archaeologists (Figure __, Appendix __, Volume 2). The Paleo-Indian occupation has a temporal span of circa 11,500 to 8000 years B.P. Within the project area, however, the archaeological evidence does not reflect these early dates. This fact is more likely

attributable to a survey bias than to a true lack of Paleo-Indian occupation, as the focus of much of the archaeology done in the area has been in the flood plains and valleys. Whitley and Dorn (1993) caution that at the Pleistocene-Holocene transition (ca. 12,000 B.P.), patterns of erosion were intensified by glacial meltwater which resulted in rapid down-cutting and changing patterns of deposition, particularly in flood plains and river valleys. And so not only might these areas have been difficult to occupy during the terminal Pleistocene due to extensive flooding, but the archaeology is also hard to interpret given the high potential for the burying and/or eroding of sites.

Paleo-Indians appear to have been highly mobile hunters and gatherers organized into extended families or multi-family bands that exploited large and small game and plant resources across the Plains and Plateau. Early Paleo-Indian occupations are identified by the presence of Clovis-style projectile points and radiocarbon dates at Clovis sites tend to cluster between 10,900 and 11,200 years B.P. Clovis points are distinctive, lanceolate points with "flutes" or channel flake scars removed from the bases of points towards the tips. These are often found in association with the remains of extinct forms of megafauna, particularly mammoth.

The Folsom complex follows Clovis in the Paleo-Indian chronology. Folsom projectile points are typically smaller than Clovis points and have long central flutes on both faces. Folsom sites are also found across the Plains and Plateau, often in association with the remains of large varieties of ancient bison (*Bison antiquus*). The Casper Site, Hell Gap Bison Kill (10,430 B.P.) in Wyoming, provides a good record of the early bison hunters (Frison 1974).

Late Paleo-Indian techno-complexes, in this region referred to as Mountain Foothill Paleo-Indians, are characterized lanceolate projectile points that lack the distinctive fluting of the Clovis and Folsom points, but often exhibit well-defined and -executed parallel, collateral flaking. The Agate Basin-Hell Gap Complex, Alberta-Cody Complex, and the Frederick-Lusk Complex are three manifestations of the period. A number of areas in the vicinity of the Ranch, including the surrounding counties, have produced surface artifacts attributable to these late Paleo-Indians.

While there have been several Paleo-Indian sites found across the Plains, occupation of the Plateau by people who made large fluted points, such as Clovis or Folsom, and un-fluted points such as Mountain Foothill Paleo-Indian projectile point types occurred only rarely (Roll and Hackenberger 1998:123). The Eastern Plateau, for example, is characterized by Goatfell

complex materials (Choquette 1984) and there have been some reports of Cascade-style points, which are large, leaf-shaped points, more commonly found to the west on the Plateau proper and along the Northwest Coast.

No sites dating to the Paleo-Indian period have been found at the Grant-Kohrs Ranch National Historic Site, though there have been several Paleo-Indian sites found in Montana. The Anzick Site (24PA506), near Wilsall, Montana, is a Clovis-age burial--the only one of its kind in North America (Lahren 2001). There are a number of Folsom sites in the area of Grant-Kohrs Ranch. Among these are the MacHaffie Site (Forbis and Sperry 1952) and the Indian Creek site, both of which are located near Helena, Montana. The Indian Creek site appears to have had multiple Paleo-Indian occupations, as it is a multi-component site with assemblages including Folsom, Agate Basin, and Hell Gap technologies; these latter will be discussed below (Baumler and Davis 2000).

Between 8500 B.P. to about 8000 B.P., there was a shift from a continental to a maritime climate on the Eastern Plateau, with an increase in moisture and precipitation (Chatters 1998). Following this climatic shift, archaeologists note a diversification of lithic implements. People living on the Plains shifted from specialized big game hunting to broad-spectrum resource utilization in the wetter mountain terrain.

The Early Archaic (ca. 8000 to 5500 B.P.) period follows the Paleo-Indian in the prehistoric chronology. Marvin Kay states that, the Early Archaic "is best conceived as a time of varied responses to a changing Holocene landscape, biota, and climate, on the one hand, and to equally dynamic hunting and gathering systems on the other" (Kay 1998:193). Archaeologically, occupations during this time are characterized primarily by side-notched, and periodically by corner-notched projectile points (Frison 1991; Wood 1998). The Oxbow Complex, discussed in more detail below, may have developed during the terminal Early Archaic. Frison states that "[s]ome cultural materials that occur towards the end of the Early Plains Archaic period are reminiscent of Oxbow. This is certainly true from the Mummy Cave, Southsider Cave, and Rice Cave assemblages" (1991:45).

The next period, known as the Middle Archaic (ca. 5500 B.P. to ca. 1000 B.P.), is characterized by an increased use of plant foods and a dispersal of peoples into previously unoccupied regions (Frison 1991). Archaeologically, lanceolate points, basally notched points, and stemmed points dominate the material record. The Oxbow Complex, dating to between

5,200 and 3,000 B.P., is prevalent during this time (Brumley 1998). Oxbow projectile points are atlatl dart-sized points that are basally thinned forming "ears," which are similar to, but larger than the later Hanna points of the McKean Complex. While most of the tools found associated with the Oxbow Complex are made of local raw materials, it is during this time that we see the first evidence of long distant trade of copper from the Great Lakes region and shell beads from the Atlantic Coast (Dyck and Morlan 2001).

The McKean Complex makes an almost dramatic appearance during the Middle Archaic. This Complex overlaps temporally with the Oxbow Complex, dating to between 5,700 and ca. 3000 B.P., and includes the Duncan, Hanna, and McKean point types.

In addition to the projectile point technologies noted above, stone circles, or tipi rings, become prevalent during the Middle Archaic. During this period, and well into historic times, stones were used to hold down conical lodge coverings among many Plains tribes. Tipi rings are the most commonly found feature of the pre-contact archaeological record on the Northern Plains.

The Middle Archaic provides evidence for the earliest period of occupation at the Grant-Kohrs Ranch. For example, site 24PW1076 is a tipi ring site. As stated above, tipi rings become prevalent during the Middle Archaic. Also, at the same site, a projectile point was found during the present investigation that is morphologically similar to the McKean lanceolate points. Furthermore, some previously recovered artifacts from 24PW1078 and 24PW1079 are also morphologically similar to Middle Archaic projectile points found on the Plains and the Plateau (Western Archaeological Center 1998). Finally, an isolated basalt point was found that is very similar to the Hanna points of the McKean Complex, though the base of the point is slightly damaged and a clear chronological correlation has not been made.

The Late Plains Archaic begins just before the Common Era on the Northern Plains (ca.3000 B.P. to 1500 B.P.). Frison (1991:194) believes that this time was marked by a "period of extensive and sophisticated bison trapping on the Northwestern Plains." It was also during this period that camas use experienced "initial intensification," which suggests an increased focus on plant foods (Roll and Hackenberger 1998). The beginning of this period was dominated by the Complex known as Pelican Lake. Pelican Lake typically dates to between 3000 B.P. and 1500 B.P. (Foor 1998; Frison 1991) and is characterized by corner-notched projectile points with open notched cornering. Pelican Lake technologies were wide-spread across the Northern

Plains, and include: the Cannon Ferry material (Davis and Helmick 1982), the Antonson site (24GA660) (Davis and Zeier 1978), and the Schmitt Chert Mine (24BW559) (Davis and Foor 1982). The peoples using Pelican Lake systems utilized a broad-spectrum resource base to a higher degree than did later peoples who, in many areas, became primarily bison hunters.

On the Eastern Plateau the Late Archaic is characterized by atlatl-sized corner-notched and small side-notched points. These are variously referred to as Big Creek corner-notched, Serrated Pelican Lake-Elko corner-notched, and Elko-Bitterroot.

Around 1900 B.P. the Northern Plains began to see a diversification in stylistic manifestations with the appearance of the Besant system. The origins of Besant are not completely clear, though the system has characteristics which have lead some archaeologists to claim that it is an expansion of the Woodland Tradition that reached the Northern Plains (Johnson 1977). Though they had many things in common with the peoples to the east, such as pottery and burial mounds, the Besant peoples were focused on the bison populations that were increasing on the Plains at this time. Besant projectile points are quite similar to the Sandy Creek culture found at the Mortlach site (Wettlaufer 1955), indicating a possible relationship between the two.

Also circa 1900 B.P. the bow and arrow appear, and by 1500 B.P. the technology was wide-spread across the Eastern Plateau and the Plains. This technological shift marks the beginning of the Late Prehistoric Period. The projectile points associated with this initial period are small (arrow-sized) corner-notched points, consistent with the Avonlea type. The projectile points are small and thin with notches taken out near the base of the point. Makers of Avonlea Complex artifacts were specialized bison hunters who utilized communal hunting extensively. Though bison seems to have been the focus of Avonlea hunters, other game such as antelope (Davis et. al. 2000), was also periodically harvested. On the Eastern Plateau, deer-sized game dominate most of the faunal assemblages, though small quantities of bison have been found at several sites including the Eagle Bend site near Big Fork, Montana (Roll and Hackenberger 1998).

Avonlea may have developed out of Pelican Lake (Reeves 1983). However, this assertion is largely based on similarities between projectile point types and the geographic setting that they both occupy. Other hypotheses for the origin of Avonlea include southward migrations of northern Athapaskans (Kehoe 1973), and there is strong evidence to suggest interaction between

Besant and Avonlea peoples (Rubelmann 1983; Dyck and Morlan 2001). It appears that the Avonlea complex developed into later systems such as the Old Woman's Phase (Reeves 1983).

The Old Woman's Phase, which appears around 1300 B.P., is associated with several projectile point types including: Prairie Side-Notched, Plains Side-Notched, and Plains Triangular (Kehoe 1966). The Old Woman's Phase includes a wide variety of projectile point types, indicating a re-emergence of stylistic variation that had largely been lost after McKean times. The Old Woman's Phase is the full-blown manifestation of the classic bison hunter-gather society that is observed in the early Contact period. Large-scale communal kills are found in association with large processing areas at sites such as Head-Smashed-In (Reeves 1978; Brink et al. 1986) and the Vore Site (Reher and Frison 1980). This system remains in use well into the Contact period, shifting only slightly after the introduction of the modern horse to the Plains in the late seventeenth century. The horse created new logistical possibilities (faster transportation, new sources of wealth and prestige, a more powerful beast of burden etc.) and difficulties (food and water for the large herds, theft etc.) for the tribal peoples of the Northern Plains.

In Sharrock's report (1973), he concludes that all four of the sites that he recorded within the Grant-Kohrs Ranch "are late prehistoric to historic, judging from projectile points." However, as mentioned earlier, some of the points found closely resemble Middle Archaic points, as do two projectile points recovered during the current investigation. The information seems to indicate that the landscape currently known as the Grant-Kohrs Ranch National Historical Site has been in use since at least some time during or after the Middle Archaic.

During historic times, the project area was occupied by a number of different groups. Among these were the Salish (Séliš), Pend d'Oreille, Kootenai (Ktunaxa), Spokane, Coeur d' Alene, Bannocks, Blackfeet, and Kalispel. It is also known that many of these groups commonly hunted game in the nearby mountains, including deer and similar-sized game such as bighorn sheep and caribou to the north. Antelope, elk, moose, bear, and mountain goats were hunted along with a number of other small game animals, waterfowl, upland game birds, and furbearers (Bruton 1998). The Pend d'Oreille also focused on salmon runs as a major food source (Malouf 1998). Subsistence patterns of ethnographically known tribes in the area reflect a hunting-gathering lifeway with a strong reliance on fish by some of the groups. All of the groups crossed the Rocky Mountains to hunt bison, a practice which likely began thousands of years ago. The Deer Lodge Valley played an important role in this hunting pattern, as many people followed the

migration through the Valley from the Plateau to the Plains.

I.B. Historical Overview

The 1850's marked the beginning of a mass migration of European-American people entering the Oregon Territory. This migration created a market for cattle in the Northern Rockies (Fletcher 1961).

Caravans of immigrants passing through the Rockies depended on foraging whatever was available in a given region to feed their cattle stock. The strenuous route over the mountains, as well as limited pasture lands, left many cattle gaunt and weak. Unable to spare the time to fatten these animals in the more moderate mountain valleys, they were abandoned while the immigrants moved on.

A year grazing in the valleys fattened the abandoned cattle enough for trappers and others in the region to herd them for sale or trade to successive waves of immigrants (Fletcher 1961), and in 1859 a Canadian, John Francis Grant, settled in Deer Lodge Valley to market these cattle. His first ranch was located near the mouth of the Little Blackfoot River and was referred to as the "Grantsville" ranch. Grant moved to the city of Deer Lodge, then known as Cottonwood, in 1862 and built the house that would be the foundation for what is now Grant-Kohrs National Historic Site (Figure __, Appendix __).

Grant pastured his herds in the Deer Lodge Valley. He then traded his livestock to travelers along the Oregon Trail. Grant "also opened an Indian trading post at his ranch and did some mining in the area" (Sudderth 1980). Many miners followed the early trappers to the western states and Montana was no exception. Once gold was found in this region the population of miners increased, bringing the likes of Conrad Kohrs to the Deer Lodge Valley. Kohrs located to Deer Lodge around the same time as Grant and made his living first as a miner then as a butcher. He subsequently departed for Bannack and Virginia City plying his trade as a butcher, supplying meat to miners.

Kohrs built a sizable business and eventually offered to buy Grant out. Grant had become concerned about the social environment--he felt the lawless atmosphere was not an appropriate setting in which to raise his children--and took the offer in 1866. Kohrs states, "I bought out Johnny Grant's ranch, the land of which had not been surveyed and had no title to and the

remainder of his cattle, amounting to about 350 head from yearlings up. The price paid was $19,200.00 on which I paid $5,000.00, the balance to be due the next spring" (Kohrs 1977). In his memoirs, Grant recalls the event as follows, "Con took possession of horse and cattle and simply stepped into my shoes, as they say, and became wealthy" (Meikle 1996).

After purchasing Grant's ranch, Kohrs expanded his operations by opening butcher shops in Helena, Pioneer, Black Foot, and Deer Lodge. He eventually recruited his half brother, John Bielenberg, to help manage the growing business. Through this partnership Kohrs "built a ranching empire that eventually controlled over 1 million acres of land supporting thousands of cattle and over 1,000 head of horses" (Sudderth 1980).

Kohrs' success is owed in part to his business acumen and ability to take advantage of available markets. When the local mining operations began to dry up, Kohrs was the first to drive cattle to California. He made contacts in the east as well, and as easterners' taste for beef grew, Kohrs was ready and eager to ship his cattle by rail to the stock yards of Chicago.

Like Grant, his predecessor, Kohrs also tried his hand at mining, but on a much greater scale. He bought up claims for hydraulic mining and "was ruthless in acquiring mineral land and froze out independent miners by cutting off their water" (Wolle 1963). Though Kohrs' mining claims are said to have spanned western Montana, evidence of mining activity near his home ranch is sparse.

In 1932 Conrad Kohrs Warren, the grandson of Conrad Kohrs, took over management of the ranch. Between the time when Conrad Kohrs died in 1920 and the time when Conrad Warren assumed managerial responsibilities, management of the ranch and all of Kohrs' interests was entrusted to the directors of the Conrad Kohrs Company. During this interim, business stagnated and many of the original holdings were sold. It was Conrad Warren who "rejuvenated the old place and [added] to its boundaries" (Sudderth 1980a).

Where Grant had marketed cattle to the immigrants, and Conrad Kohrs sold beef to the miners before opening up to other markets, Conrad Warren made his niche in breeding registered Herefords and Belgian horses. Again, like his predecessors, Warren dabbled in mining (Mike McWright, personal communication). He may have tested for phosphates on the property, as various areas around the home ranch were tested and phosphates were found, but not in an abundance or quality that warranted further mining. Warren also tried his hand at gold mining, though not on the Ranch proper (Chris Ford, personal communication).

In 1960 the Grant-Kohrs Ranch was designated a National Historic Landmark and the historic portions of the ranch were deeded to the National Park Foundation. In 1972 the ranch was designated a National Historic Site by Congress and its properties came under the control of the National Park System. As a National Historic Site, Grant-Kohrs Ranch is listed on the National Register of Historic Place. Today the ranch exists as an interpretive center, museum, and as a working ranch.

I.C. Objectives

The primary objective for this project was to conduct a professional Class III cultural resource inventory of the Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana in order to identify and record cultural resources. All inventory was based on surface evidence only; shovel tests and auger probes were not conducted. Four stages of research were required for a project of this nature:

1. Collection and review of existing archaeological survey information;
2. Identification of information needed to complete the archaeological survey of the entire property;
3. Performance of a detailed Class III cultural resource inventory of the area as identified in Stage 2; and
4. Submittal of a detailed Class III cultural resource inventory report to the Grant-Kohrs Ranch National Historic Site.

I.D. Personnel

The cultural resource inventory was carried out by a crew from The University of Montana, Missoula. The team consisted of two University of Montana graduate students, S. Raven Garvey and Mark A. Carper, and University of Montana graduate Robert C. Ó Boyle. Their efforts were guided by Drs. Thomas Foor and William Prentiss of The University of Montana, Department of Anthropology.

I.E. Total Acres Inspected

Approximately 1600 acres were inspected in Sections 21, 28, 29, 32 and 33 of Township 8 North, Range 9 West (T 8N, R9W) (Figure __, Appendix __, Volume 2).

II. ENVIRONMENTAL DATA

II.A. General Environment

The focus of this study includes the lands of the Grant-Kohrs Ranch National Historic Site, located in the Deer Lodge Valley, Western Montana. The Grant-Kohrs Ranch is situated on the Clark Fork River, approximately ten miles west of the Continental Divide. The predominant land-feature type within the Park is river basin grassland which grades, from east to west, into the mountain foothills type. The Clark Fork River is a major river drainage that has its headwaters near the Continental Divide and flows west for nearly three-hundred miles to Lake Pend d'Oreille in northern Idaho. Tributaries of the Clark Fork within the park boundaries include Johnson Creek, Taylor Creek, and Cottonwood Creek. In addition, there are two springs, one near Johnson Creek and another near the Clark Fork itself. The valley is delimited by fir, spruce, and pine covered mountains.

The vegetation varies considerably from one location to the next depending upon distance from water and elevation, which can have a substantial impact on the land-use patterns of a property. Much of the land at the Grant-Kohrs Ranch has been flood-irrigated and there are extensive irrigation ditches across the property. This practice, coupled with the introduction of non-native flora species, especially in the residential area, has undoubtedly changed some of the vegetative patterns on the Ranch within the last few hundred years.

The establishment of political boundaries is a fairly recent cultural phenomenon that has very little relevance to understanding the environmental settings and land-use patterns of the indigenous peoples of the area. However, the archaeological manifestations that date to the historic period on the Ranch have been affected by--and indeed are the product of--activities associated with Ranch boundaries. The landscape within the Grant-Kohrs Ranch is the product of over one hundred and forty years of active land and water management. There are nine discrete areas that were defined on the Grant-Kohrs Ranch by Keohan (1991) including: Home Ranch Complex; East Feed Lot/Warren Hereford Ranch; Residential; Pasture/Hay Field; Upland Pasture; Riparian/Woodland; Barrow Pit/Wetland; Railroad Bed; Intrusion (Figure __). All of these lands, to one extent or another, have been culturally modified, including the areas of

pasture hay lands, upland pasture, and the riparian wood land.

The landscape features of the Upland Pastures, located in the western portion of the property, consist of sloping hills (8 to 35 percent grade) and are treeless and un-irrigated, supporting native short grasses such as buffalo grass and needle-n-thread grass and non-native grasses such as crested wheatgrass and sunflowers. This area appears to have been significant to the historic as well as the prehistoric occupants of the Ranch. Located in the Upland Pasture areas are two prehistoric sites (24PW1076 and 24PW1079), an isolated basalt projectile point (see Appendix __, Volume 2), and several historic features including a dump, two foundations, and a scatter of historic debris.

The Riparian/Woodland portion of the Ranch is characterized by dense growth of grasses and shrubs along the floodplain of the Clark Fork River. The flora in the Riparian includes a variety of deciduous trees and shrubs, willow thickets, native tall grasses and non-native grasses. Throughout the Riparian area there are "slickens" that are deposits of sediment associated with mining activities up stream from the Ranch; in these areas there is no vegetation growing.

The Pasture/Hay Field portion of the Ranch is extensive, covering 850 acres of the Ranch (Keohan 1991:21). The Pasture/Hay Field retains not only the visual, but the functional purpose it did at the time when John Grant arrived. The vegetation in the Pasture/Hay Field is largely made up of alfalfa, crested wheat-grass, and native tall and short grasses.

The remaining portions of the Ranch, the Home Ranch Complex; East Feed Lot/ Warren Hereford Ranch; Residential; Barrow Pit/ Wetland; Railroad Bed; and the Intrusions, have been extensively culturally modified. The vegetation in these areas includes a variety of deciduous trees and shrubs; particularly noteworthy are the Black cottonwoods and willows which are around the buildings and along the Johnson Creek drainages. Other vegetation in the remaining areas includes cultivated and native grasses. In the disturbed area along the railroad tracks--consisting of an area dredged for gravel during railroad construction, which Koehan (1991:30) refers to as the Barrow Pit/ Wetland--there are cattails and other vegetation associated with wetlands.

II.B. Geology

The Deer Lodge Valley lies along the Clark Fork River between two mountain ranges. To the east of the Ranch the mountains were formed during the Cretaceous, with a foundation of

Upper Cretaceous sedimentary and volcanic rocks and a core of Upper Cretaceous through Lower Tertiary granites. The mountains to the west of the Grant-Kohrs Ranch were formed during the Precambrian through the Cretaceous by sedimentary rocks with a foundation of Lower Tertiary granites. The valley floor is an emplacement of the Philipsburg and Boulder formations by Quaternary fluvial deposits including erosional materials from surrounding mountains and expelled volcanic rocks. On the west side of the Deer Lodge Valley the Flint Creek Range was formed by a thin mantel of glacial debris.

The surface geology of the Grant-Kohrs Ranch itself is largely the product of the Wisconsin Glacial which formed the alluvial deposits both during and following the Pleistocene into the present. The soils found in the floodplain of the Ranch are gravelly and sandy loams that measure approximately three feet over the subsoil glacial/river gravel bed.

II.C. Climate

The climate of the Grant-Kohrs Ranch can be described as a semi-arid environment with an average annual precipitation of 10.62 inches and short, warm summers with temperatures of up to 108º F and winter temperatures as low as -42º F (WRCC 2003). Since there is a lack of precipitation in the area, most of the moisture used to irrigate the fields and grow hay on the Grant-Kohrs Ranch came from active management and close proximity of the Clark Fork River and the tributaries and springs on the Ranch.

III. HISTORY OF ARCHAEOLOGICAL INVESTIGATIONS

1973 Floyd W. Sharrock

Sharrock surveyed approximately 135 acres deeded to the National Park Service and approximately 1200 additional acres for which the NPS had scenic easement (Sharrock 1973). The project involved a pedestrian survey with surface collections. During the project four (4) prehistoric sites were identified. These sites are: 24PW1076, 24PW1077, 24PW1078, and 24PW1079.

Pertinent Documentation:

Sharrock, F.W.

1973 An Archaeological Survey of the Grant-Kohrs Ranch National Historic Site. Manuscript on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Sharrock, F. and A. Ramos

1973a 24PW1076 Site Report. Statewide Archaeological Survey. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1973b 24PW1077 Site Report. Statewide Archaeological Survey. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1973c 24PW1078 Site Report. Statewide Archaeological Survey. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1973d 24PW1079 Site Report. Statewide Archaeological Survey. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Frankowski, L.

1978 Summary of Archeological Resources and Resource Management Needs for Grant Kohrs Ranch National Historic Site, prepared by the RMR Inventory of Archeological Sites Program, Midwest Archeological Center. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Hartley, R., A. Wolley, and M. Johnson

1989 Archeological Evaluation of Prehistoric Sites at Grant-Kohrs Ranch National Historic Site, Montana. Manuscript on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1975 Winifred Brown

The purpose of the investigation was to assess the impact that proposed Park developments including a parking lot, a paved walking path, and a visitor center would have on the Tom Stuart Homestead site, and prehistoric sites 24PW1077, and 24PW1078. After three days of survey, April 16,17, and 18, Brown recommended that a "no work" (i.e., no construction) boundary of 50 feet north, 30 feet east and south, and 75 feet west of the Tom Stuart site be established. Brown's recommendation regarding the two prehistoric sites was continued avoidance, as the proposed Park developments would not adversely impact either site. Brown also recommended limited testing in the proposed construction area.

<u>Pertinent Documentation:</u>

Brown, W.E.

1975a Trip to Grant-Kohrs Ranch National Historic Site. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

1975 Winifred Brown

Between June 24 and July 1 Brown conducted a series of archaeological tests, partly in response to her own findings and recommendations from earlier that year (April 16-18; see above). Brown identified four (4) purposes for these tests:

1- To determine if any historical or archaeological materials would be disturbed during the construction of the proposed park developments.

2- To salvage any materials found to be thus threatened.

3- To test prehistoric site 24PW1078 for National Register significance .

4- To assess the possibility of determining the course of the historic water system in the ranch area

Her work resulted in:

1- Five (5) test pits were excavated in the present visitor center and parking lot area. It was determined that construction in the proposed area presented no threats to archaeological materials.

2- Materials were recovered from both the test units associated with purpose 1 and through surface collecting.

3- Five (5) test units were placed on 24PW1078 and surface collections made. It was Brown's conclusion that the site did not meet any criteria for National Register eligibility.

4- Brown was unable to determine the course of the historic water system.

Pertinent Documentation:

Brown, W.M.
1975b Archeological salvage investigations at Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana. Memorandum to Supervisory Archeologist, Historic Preservation Team, Denver Services Center. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Frankowski, L.
1978 Summary of Archeological Resources and Resource Management Needs for Grant Kohrs Ranch National Historic Site, prepared by the RMR Inventory of Archeological Sites Program, Midwest Archeological Center. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

1976 Carol L. Legard

The purpose of this project was the "monitoring of trenching around [Ranch] building foundations. A few historic artifacts were recovered" (Western Archaeological Center 1998). Aside from the materials listed below, no further reference to or documentation of the Legard project could be located.

Pertinent Documentation:

Frankowski, L.
1978 Summary of Archeological Resources and Resource Management Needs for Grant Kohrs Ranch National Historic Site, prepared by the RMR Inventory of Archeological Sites Program, Midwest Archeological Center. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Sudderth, W.E.
1980a Grant-Kohrs Ranch: An Archeological Glimpse of the Golden Years. Manuscript on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

1979 Tom Vaughn

Western Archaeological Center, NPS (1998) reports that this project involved the investigation of a historic waterline exposed during subdivision sewer line trenching. The Western Archaeological Center references a memorandum from Tom Vaughn to Adrienne Anderson titled "Archeology of subdivision sewer line, GRKO" dated March 5, 1979. Neither this memorandum nor any other documentation of the project could be located.

Pertinent Documentation:

Vaughn, Tom
1979 Archaeology of subdivision sewer line, GRKO. Memorandum to Adrienne Anderson, Midwest Archaeological Center, dated March 5, 1979. On file, National Park Service, Midwest Archaeological Center, Lincoln, Nebraska.

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

1979-1980 W. E. Sudderth

This project consisted of the placement of 9 subsurface test units. This testing was the result of Package Proposal 110 which recommended a fire control system, and Package 113 which recommended the restoration of the Ranch House and out-buildings. Identified in the excavation was one subsurface historic trash dump. "The dump is located near the present location of the coal shed and extends under the access road toward the northwest corner of the 1890 addition to the main ranch" (Sudderth 1980a).

Pertinent Documentation:

Sudderth, W.E.
1980a Grant-Kohrs Ranch: An Archeological Glimpse of the Golden Years. Manuscript on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Sudderth, W.E.
1980b Trip report to GRKO 4/24-5/30/80. Memorandum on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Sudderth, W.E.
1981 Preconstruction Excavations at Grant Kohrs Ranch 1979-1980. Paper

presented at the Society for Historical Archeology Conference, New Orleans.

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

1982 Adrienne Anderson

This project involved "[r]elocation and assessment of impact to site 24PW1078 due to proposed wire fence replacement" (Western Archaeological Center 1998). The Western Archaeological Center references Strait 1982 and then fails to give a full citation of this document in the bibliography. Therefore, neither the Strait document nor any other documentation regarding this project could be located.

Pertinent Documentation:

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

1982 Cheryl Clemmenson

Due to low water levels of the Clark Fork River during this year, historic materials were identified at the Clark Fork River Bridge. A 1982 memorandum from Superintendent Jimmy D. Taylor documents a telephone conversation between Clemmenson and the Regional Archeologist, Rocky Mountain Regional Office, during which a proposal for Clemmenson to record and remove the exposed material from the water was discussed. Park Curator Chris Ford writes that "this site was 'excavated' by GRKO staff during 'low water' of 1982, probably late August. . . The project was conducted under the direction of Cheryl Clemmenson--at that time Chief of Interpretation and Resource Management and considered the site archaeologist and Curator Randi Bry Smith. There was no report made of the excavation" (personal communication). Large quantities of cultural material were recovered, and are curated in the museum collection. No other documentation regarding this project was located.

Pertinent Documentation:

Taylor, J.D.
1982 Underwater Salvage at Clark Fork River Bridge. Memorandum on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

1989 Ralph Hartley

Pursuant to one stipulation of a three-party memorandum of agreement (MOA) between the Rocky Mountain Regional Office of the National Park Service, the Montana State Historic Preservation Office, and the Advisory Council on Historic Preservation, the NPS tested and evaluated prehistoric sites within an area of the Grant-Kohrs Ranch National Historic Site that was to be leased for grazing purposes. Prior archaeological investigations had identified four prehistoric sites (Sharrock 1973), 24PW1076-1079, in the area. Hartley et al. reevaluated all four sites and placed three 1 x 1m excavation units at 24PW1076. Site 24PW1079 could not be relocated and the other two site reevaluations generally agreed with the initial assessments provided by Sharrock in 1973. Hartley reported that none of the sites "have enough remaining context to qualify for eligibility to the National Register" (Hartley et al. 1989).

Pertinent Documentation:

Hartley, R.
1989 24PW1076 Site Report Addendum. National Park Service Midwest Archeological Center Excavation Unit Form. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Hartley, R. and A. Wolley
1989a 24PW1076 Site Report Addendum. Montana Cultural Resources Information System Form. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1989b 24PW1078 Site Report Addendum. Montana Cultural Resources Information System Form. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

Hartley, R., A. Wolley, and M. Johnson
1989 Archeological Evaluation of Prehistoric Sites at Grant-Kohrs Ranch National Historic Site, Montana. Manuscript on file, Grant-Kohrs National Historic

Site, Deer Lodge, Montana.

Western Archaeological Center, NPS
1998 Grant-Kohrs Ranch National Historic Site Cultural Sites Inventory. Report on file, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana.

Wolley, A.
1989 24PW1077 Site Report Addendum. Rocky Mountain Region Archeological Site Status Evaluation. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1995 Ann Johnson

This project entailed archaeological monitoring during the installation of water and electrical lines from the Warren House, the surface survey of possible routes for the connection of the Park to city water, surface survey of the area for the proposed curation building, survey of an area for a proposed creek-bank fencing, and the assessment of concentrations of historic debris at the Clark Fork River Bridge. Neither the monitors nor the surface surveyors observed any archaeological material. A small trash dump was located while inspecting the proposed curation facility area. This dump was later recorded by Ann Johnson and assigned the Smithsonian trinomial designation 24PW651. The historic dump at the bridge was recorded and assigned the trinomial 24PW657.

Pertinent Documentation:

Johnson, A.
1995a Trip Report, Grant-Kohrs Ranch National Historic Site. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1995b 24PW651 Site Report. Montana Cultural Resources Information System Form. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1996 24PW657 Site Report. Montana Cultural Resources Information System Form. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1999 Ann Johnson

The purpose of this project was to assess and record a historic trash dump site. Johnson notes that a lessee of historic hayfields in the Grant-Kohrs Ranch National Historic Site, while digging a small trench to drain a wet spot in the fields, observed in the trench historic materials which included broken glass, ceramics, and other material indicative of an early- to mid-twentieth century trash dump (1999). However, a Park staff member believes that the ditch was dug by Park staff and not a lessee (Chris Ford, personal communication). This site, located near a pump house, had been identified in 1991 by Cheryl Clemmenson, Chief of Resources. Ann Johnson subsequently recorded the site assigned it the Smithsonian trinomial 24PW693. Material was collected and is curated at the Park as accession number GRKO-1386. Johnson considered the site "Non-significant" regarding National Register of Historic Places status because "the artifacts in general duplicate those in the museum collection for the park. The material is typical of that found in dumps on ranches and the site is small with a limited number of artifacts. Although some of the artifacts are old, there is no information about when the dump was created" (1999) .

Pertinent Documentation:

Johnson, A.
1999 24PW693 Site Report. IMACS Site Form. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

1999 Kirby Matthew

This project was initiated as part of a proposed wastewater effluent project, Compliance Form GRKO-99-01. It involved a cultural resource inventory of 110 acres in the northeastern section of Grant-Kohrs Ranch National Historic Site. One isolated artifact was found: the mid-section of a chert biface, now in the museum collection.

Pertinent Documentation:

Matthew, K.
1999 Cultural Resource Inventory Project Report, Grant-Kohrs Ranch National Historic Site, Deer Lodge, Montana. Deer Lodge Wastewater Effluent Project, GRKO-99-01. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

2000 Robert Nickle

This project was done as part of the Section 106 of the National Historic Preservation Act compliance completed for restoration of the Kohrs Ranch House cultural landscape, which involved replanting trees and replacing fences (Chris Ford, personal communication). The objective of this archaeological-geophysical survey was to look for evidence of circa-1900 trees in front yard of the main Ranch House. A second objective was to attempt to locate evidence of the historic water distribution system which had been used to irrigate the front yard of the main house, among other areas. The project was concluded with the location of some of the ranch house's former trees. Only one feature was detected which could be associated with the irrigation system.

Pertinent Documentation:

Nickel, R.
2000 Trip Report - On July 12th and 13th. Memorandum to Manager, Midwest Archeological Center. On file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

2001 Ann Johnson

During this project, a corridor to be impacted during the installation of a fiber optic cable was surveyed. The corridor, 10 meters wide, was surveyed at 1-meter intervals. The corridor connected the following facilities: the visitor contact station, the proposed curation facility, the Red Barn, the maintenance building, the Warren House, and the resource office structure. No cultural materials were observed.

Pertinent Documentation:

Johnson, A.
2001 Archeological Inventory for Fiber Optic Line, Grant-Kohrs Ranch National Historic Site. Report on file, Grant-Kohrs National Historic Site, Deer Lodge, Montana.

IV. METHODS

Prior to work in the field, a thorough files search was conducted. Investigators acquired all information pertaining to the cultural resources at the Grant-Kohrs Ranch National Historic Site from the Montana Archaeological Records Office (The University of Montana, Department of Anthropology), the Grant-Kohrs Ranch National Historic Site, the Montana State Historic Preservation Office (Helena, Montana) and the Powell County Court House (Deer Lodge, Montana). From these documents, investigators compiled a history of past research at the Grant-Kohrs site, including all previous cultural resource surveys and previously recorded sites and isolates within the project area. Compilation of this information aided in the formulation of the research design for this Class III cultural resource inventory.

In the field, the project area was located using section corners, quarter-section corners, landmarks such as the Clark Fork River and its tributaries, topographic features, and National Park Service boundary markers on extant fence lines. A map illustrating fence lines was obtained from the Grant-Kohrs GIS specialist, Judy Huether, and used to facilitate pedestrian survey. Within each fenced section, investigators walked transects at 30-meter intervals. In areas where previously identified features and cultural materials were located, and where features and cultural resources located during the present survey were found, the interval was reduced to two meters in order to identify all cultural materials present. All features, isolated finds and sites were photographed and recorded on the appropriate forms (Montana Cultural Resources Information System form [CRIS] and Montana Isolated Find/Feature form), provided by the Montana State Historic Preservation Office (SHPO).

All cultural resources within the project area were placed into one of several categories: A) sites previously identified and assigned Smithsonian trinomial designations, B) sites identified in the NPS Cultural Sites Inventory (CSI; Western Archaeological Center 1998) but not assigned trinomials, C) sites identified during this project and assigned Temporary Site numbers (hereafter referred to by a GRKO-1426-TS# and a newly assigned Smithsonian trinomial designation), and D) features and isolated finds located during this project and assigned Isolated Find/Feature numbers (hereafter referred to by a GRKO-1426-IF#).

Sites places into category A were revisited, re-surveyed, photographed, described in full,

assessed as to site integrity and condition and recorded as addenda to the original site forms. All such addenda are located in Appendix __ of Volume 2, the supplement to this report.

Sites placed into category B were revisited, re-surveyed, photographed, plan mapped, described in full and, when warranted, recorded on a CRIS form provided by the Montana SHPO and assigned a Smithsonian trinomial designation. At the request of the Grant-Kohrs curatorial staff, no cultural materials were collected. All such CRIS forms are located in Appendix __, Volume 2, the supplement to this report.

Sites identified during this project were photographed, plan mapped, located in space using UTMs (Universal Transverse Mercators) derived by a hand-held GPS (Global Positioning System) unit, described in full (including a representative inventory of the cultural materials present), recorded on a CRIS form, and assigned Smithsonian trinomial designations. All such CRIS forms are appended to this report of findings in Appendix __, Volume 2, the supplement to this report.

Isolated finds and features located during this survey were photographed, drawn to scale and/or scanned[1] (in the case of projectile points), described in full and recorded on a Montana Isolated Find/Feature form. All such forms are appended hereto in Appendix __ of Volume 2, the supplement to this report.

The aforementioned categories and procedures exclude old fence lines and other linear, utilitarian features (i.e. powerlines) that are no longer in use. Such linear features are treated in the section entitled Results, under the heading 24PW118 and in Appendix __ of Volume 2. In the field, all of these features were photographed and UTMs were recorded at their termini. The ground surfaces around all such features were examined, as were the materials used in their construction, in an attempt to place them in time. Sketch maps of these features seemed superfluous and in many cases not feasible, and so only photographs, UTMs and descriptions are in Appendix __, Volume 2.

All photographs were taken with a Cannon Power Shot A40 digital camera, downloaded

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[1] Scanning projectile points appears to produce a higher-quality image than even digital photography. The viewer is able no only to see surface features clearly, but also to zoom into the image up to 14x, while maintaining an excellent degree of clarity.

to a Gateway Solo 5300, and saved to a CD in Jpeg format suitable for any CD-Rom. Color slides were made from the digital images and submitted to the Grant-Kohrs Ranch National Historic Site for curation. All scanned images were produced using a Cannon Canoscan 5000E scanner and saved in the same format as the photographs. All UTMs were derived from a Magellan Meridian Platinum hand-held GPS unit, corrected to NADA 27, and allowed to average for several minutes before recording the reading. All plan view maps were drawn using a metric measuring tape and a compass and rendered on metric graph paper.

All historical cultural materials believed to be in excess of 15 years of age and no longer in use were recorded, as per the agreement between the Grant-Kohrs Ranch National Historic Site and The University of Montana. Within the Grant-Kohrs Ranch/Warren Ranch building complex, the investigators revisited all of the sites previously assigned Cultural Sites Inventory numbers (Western Archaeological Center 1998) or Field Designation numbers (Clemmenson 1991). These are detailed in the Results section of this report. Features and isolated objects within the Grant-Kohrs Ranch/Warren Ranch building complex, such as the old Chicago, Milwaukee & St. Paul railroad tracks and farm equipment placed deliberately for public interpretational purposes were not recorded, as they were either recorded during the National Landmark and/or National Register nominations or else do not meet the requirement of 15+ years of age and no longer in use. Furthermore, no historic structures were recorded during this project, as per the agreement between The University of Montana, Department of Anthropology and the National Park Service, Grant-Kohrs Ranch.

Historic features separated by more than 10 meters, unless clearly part of a single functional unit or connected by an artifact scatter, were given separate site numbers. Large-scale, recurring features, such as posts in a fence line, were treated as features.

Historic sites were sketch mapped, photographed, located in space according to UTMs, and thoroughly investigated for the presence of potentially diagnostic artifacts[2]. All such

[2] Diagnostic artifacts are those whose production can be identified as having occurred only within a specific time frame and by a particular person, group or company which thus provide temporal guidelines for the manufacture of the materials and likely source of their production. Diagnostic artifacts include projectile points; prehistoric pottery; bottles or glass fragments with base, finish or embossed lettering; tin cans with seams and rims; decorated ceramics or

artifacts were described in full, sketched and/or photographed in the field, and researched in the lab as to date and place of manufacture. The results of said research are presented by site under the heading Results. Surface artifact scatters that did not appear to have any significant depth (i.e. buried deposits or accretional layers as in repeated-use dumps) were assessed as to the average number of artifacts per square meter to give a representation of artifact density.

The three projectile points located during project GRKO-1426 were collected and are curated at the Grant-Kohrs curation facility.

Upon completion of the inventory, each site, isolated find and feature was individually studied and analyzed. The results of these analyses are provided in the section of this report entitled Results.

V. RESULTS

The general survey conditions during the period between June 30th and July 22nd, 2003 were as follows. Conditions correspond loosely to four topographical/locational regions: 1) riparian, 2) low-lying fields, 3) uplands and foothills, and 4) the Grant-Kohrs Ranch/Warren Ranch building complex (for additional information, based on the observations of Keohan (1991), see section II.A. General Environment). The riparian zone was heavily vegetated with cottonwood, willows, chokecherry and a variety of water-loving grasses. In this area visibility was poor (0%) with small, sparse areas of un-vegetated gravel and sand deposits (70-100% visibility). The adjacent low-lying fields were also heavily vegetated with wheatgrass and other indigenous and non-native grass species. At the time of survey, these fields had not yet been cut and visibility was generally poor (0-20%). The uplands and foothills were sparsely vegetated with short grasses (very good visibility), except in natural drainages where visibility was poor. Finally, the Grant-Kohrs Ranch/Warren Ranch building complex offered a mix of survey conditions. The immediate building district was very sparsely vegetated with short grasses, which provided good visibility. Those corrals and feed lots in use at the time of the survey were

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undecorated ceramics with maker's marks; equipment with patent dates; coins; nails; etc.

generally well-grazed, with short grasses and good visibility. Corrals and other fields within the Grant-Kohrs Ranch/Warren Ranch building complex that were not in use at the time of the survey were overgrown and visibility was comparable to that of the low-lying fields. The investigators are aware that these conditions may have affected the results of the pedestrian survey.

The Grant-Kohrs Ranch National Historic Site (24PW118), as a whole, makes up a cultural landscape with both prehistoric and historic components. Given the acreage of the site, its cultural complexity and, in certain instances, the discrete physical and temporal boundaries between cultural resources, there are a number of sites within the larger 24PW118. All of these sites, whether previously recorded or located during project GRKO-1426, are discussed individually below. Included as addenda to the original site reports and discussed presently are those features, sites and isolated finds not included on either the National Register or the National Historic Landmark nominations. Items such as farm equipment and railroad cars placed deliberately in the vicinity of the Grant-Kohrs Ranch/Warren Ranch complex for interpretive purposes are not included, nor are items younger than 15 years of age, or in excess of 15 years but still in use on this working ranch (i.e. the present railroad line and irrigation system), as per the agreement between the National Park Service/Grant-Kohrs National Historic Site and The University of Montana, Department of Anthropology.

Previously Identified Sites

The following are sites previously identified through various research endeavors at the Grant-Kohrs Ranch. In accordance with the agenda for this Class III Inventory of the Grant-Kohrs Ranch National Historic Site (project GRKO-1426), each of these sites was revisited and reassessed regarding site condition, pending threats to cultural resources, and general interpretive value. Seven of the twenty-one previously identified sites have been assigned Smithsonian trinomial designations and official State of Montana site forms detailing their location and contents have been completed. Each of these sites is discussed briefly below and addenda to the original site forms are appended to this report of findings in Appendix __, Volume 2, the supplement to this report. The remaining fourteen sites were assigned Field Designation numbers assigned by then Chief of Resources, Cheryl Clemmenson (Clemmenson 1991) and/or Cultural Sites Inventory numbers assigned by the Western Archaeological Center, National Park

Service (Western Archaeological Center 1998). The former is a running list of sites identified by Clemmenson during her tenure at Grant-Kohrs while the latter is a list, based loosely on the findings of Clemmenson, compiled by the Western Archaeological Center as part of their Cultural Sites Inventory. Furthermore, materials were collected from some of these sites during previous investigations, at which time the Park curator assigned the project/site a Museum Accession number (Figure __). The following descriptions begin with a list of all pertinent numerical designations.

Each of these previously identified sites was revisited and reassessed during project GRKO-1426 and those that warranted recordation were recorded on Montana Cultural Resource Inventory System forms provided by the Montana State Historic Preservation Office and assigned Smithsonian trinomial designations.

24PW118 The approximately 1600 acres associated with this Smithsonian number are listed with the Montana State Historic Preservation Office (SHPO; Helena, Montana) as both a National Historic Site (1618.278 acres) and a National Historic Landmark (approximately 1600 acres), and managed by the National Park Service. The Grant-Kohrs Ranch/Warren Ranch building complex, as defined in the final draft of the National Register of Historic Places nomination (Hubber et al. 2002), is located in the east-central portion of the property. This district includes both supporting and non-supporting resources, spanning the years between 1862 and 1982, and attributed to the Grant-Kohrs era (Grant-Kohrs Home Ranch building cluster; 1862-1919; National Historic Landmark) and the Conrad Warren era (Warren Ranch building cluster; 1929-1982; National Register of Historic Places). The details as to the number, contribution status, and construction materials, styles and initiators are provided in the National Register of Historic Places and National Landmark nomination documents (Hubber et al. 2001; 2002), which are on file with both the Grant-Kohrs National Historic Site and the Montana State Historic Preservation Office.

Survey of the corrals and grounds within the Grant-Kohrs Home Ranch building cluster failed to reveal any previously undocumented cultural resources. In fact, no surface manifestations of many of the previously identified historic debris scatters and dumps were located during the present survey (see below). The immediate grounds--those frequented by Park visitors--are kept very clean and the surrounding paddocks, feedlots, corrals and fields were

either heavily vegetated (0% visibility) or else disturbed by livestock trampling, fence construction and/or structure maintenance, given the property's nature as a working ranch.

The greater Grant-Kohrs Ranch exhibits an extensive complex of fencing. Of those not in use and in excess of 15 years of age, and thus recorded per the terms of the agreement between The University of Montana and the National Park Service, Grant-Kohrs Ranch, the majority are of the post and wire variety. Second in number to these are jackleg fences. Finally, one alignment of fence post collars[3] was observed in a southwestern area of the property. A list of UTMs (Universal Transverse Mercators; Zone 12) and general descriptions, and photographs of these linear features are provided in Volume 2, the supplement to this report. All other sites, isolates and features observed in 24PW118 are considered separately below.

24PW1076 (Cultural Sites Inventory # GRKO00002, Museum Accession Number GRKO-1219) This prehistoric site is located in the SE½ of the SE¼ of the NW¼ of Section 32, Township 8N, Range 9W, on the crest of a knoll that is part of an east-west trending ridge, west of the Clark Fork River. It was first recorded by Floyd Sharrock in 1973. According to the original site report, it consists of two tipi rings constructed with irregularly-spaced stones. No other cultural material was documented at this time.

Hartley and Wolley returned to the site in 1989 at which time they described the site as consisting of three tipi rings, approximately 8-9 meters in diameter, except the northwestern-most ring, which is ~5m in diameter (1989a). According to the 1989 report, the rings are constructed of widely-spaced stones of variable sizes, dominated by quartzite cobbles. One of these rings has a small (~70cm diameter), well-entrenched "hearth" feature approximately in its center. Hartley and Wolley placed three 1 x 1m units; one inside or adjacent to each of the tipi rings. According to the site form addendum completed by Hartley and Wolley, five quartzite flakes and one worked chert flake were collected during this visit, though no cultural material was observed, surface or subsurface, within the excavation units. Hartley and Wolley

[3] Stones are sometimes placed around the bases of fence posts to stabilize them, especially in areas of rocky soil. After removal or disintegration of the posts themselves, the stone "collars" remain as features unless they, too are removed.

determined that no additional work was necessary at the site.

24PW1076 was revisited during project GRKO-1426. The condition of the site remains good, as it was described in 1989. Two artifacts were observed during this visit: one yellow-brown chert flake, one edge of which appears worked; and one white chert projectile point. The point measures 31 mm long x 17 mm wide, its tip is missing, and it exhibits a small thinning flake on each face, probably associated with the creation of the basal notch. The point is morphologically similar to McKean lanceolate points, though it is somewhat smaller than a typical McKean point.

The western slope upon which part of the site sits is subject to moderate erosion, as it is sparsely vegetated with short grasses, Canadian thistle and rock goldenrod. At present, no work is planned for this area and no additional work is recommended.

24PW1077 (Cultural Sites Inventory # GRKO00003, Museum Accession # GRKO-1221) This prehistoric site is located west-southwest of the Warren domestic complex, itself located east of the Grant-Kohrs Home Ranch building cluster and used presently as housing for Park Service administrative offices. The site was first recorded by Floyd Sharrock in 1973 who described it as a lithic scatter containing "quantities" of basalt and chert flakes. Sharrock collected five coarse-grained basalt flakes, two fine-grained basalt flakes, and one fine-grained light gray chert core fragment. These items were housed at The University of Montana until July of 2003, at which time they were transferred to the Grant-Kohrs National Historic Site curatorial staff and added to Museum Accession number GRKO-1221.

The site was revisited by Wolley in 1989, at which time it was described as heavily disturbed due to cattle and horse grazing and the construction of two large (~3 meters in diameter) cement granary foundations sometime before 1973. Wolley questioned the site's integrity and the context of the artifacts observed both in 1973 and 1989 (1989).

The site was resurveyed during project GRKO-1426. At the time of the visit, the area in which the site is located was being used to graze cow-calf pairs. Thus, upon inspection, the site surface appeared disturbed by cattle activity and the lithic material in the vicinity of site 24PW1077--dominated by basalt fragments and a few chert cobble fragments--exhibited trample damage. The survey team concluded that Sharrock may have collected all of the cultural material that was present on the surface in 1973, and no further cultural material has been

observed since.

24PW1078 (Cultural Sites Inventory # GRKO00004, Museum Accession # GRKO-1220) This prehistoric site is located in the southeastern portion of the Ranch property, west of the extant railroad tracks, on a small terrace above Johnson Creek. First recorded by Sharrock in 1973, the site was described as a lithic scatter consisting of projectile points, scrapers, blades and flakes. Sharrock collected all of these materials, which were housed at The University of Montana until July, 2003, at which time they were transferred to the Grant-Kohrs National Historic Site's curatorial staff and added to Museum Accession # GRKO-1220. The site was then tested in 1975 by Brown (1975b) who excavated six 1 x 1m units on the ridge. Brown reported finding 11 basalt flakes, 4 obsidian flakes, 1 red chert flake, 8 yellow chert flakes, one grinding stone fragment, and two broken projectile points on the ground surface. In the excavation units, she reports finding two basalt flakes, two chert flakes, one obsidian flake, and one utilized red chert flake, all within 2-3 inches below surface. According to the Hartley and Wolley site addendum (1989), "subsurface testing in 1975 did not yield information that can. . . be considered as likely to yield important data for interpretation of the prehistory of the area."

Hartley and Wolley reevaluated the site in 1989. They observed a sparse scatter of lithic material including one large, dark gray-black basalt "core and biface" and some thermally altered lithic material. The 1989 survey crew believed that the area was "heavily disturbed by railroad construction and ranching activities" (Hartley and Wolley 1989).

The site was revisited during project GRKO-1426. The site surface did not appear to be heavily disturbed and the survey team observed a number of artifacts. These include: six basalt flakes, one obsidian flake, one piece of thermally altered stone, one piece of quartzite debitage, and three chert flakes. These items were not collected. Livestock are periodically rotated into the field, which may result in moderate erosion and trampling of artifacts. Since Sharrock, Brown, and Hartley and Wolley all collected the artifacts that they observed, it is reasonable to conclude that cultural materials continue to erode out of the terrace.

24PW1079 (Cultural Sites Inventory # GRKO00005) This prehistoric site is located in the SE¼ of the NW¼ of Section 32, Township 8N, Range 9W, in a low, flat area bounded on the north and south by hillocks and on the west by foothills. The site was initially recorded in 1973

by Floyd Sharrock who observed only one projectile point fragment. However, in a personal communication with William Roe, then Ranch manager, Sharrock established that the site had produced other lithic materials, including a projectile point and a scraper. Sharrock collected the projectile point fragment which was housed at The University of Montana until July, 2003, at which time it was transferred over to the Grant-Kohrs National Historic Site's curatorial staff and accessioned into the Museum collection.

The area was revisited in 1989 by Hartley, Wolley and M. Johnson who could not relocate the site and thus determined that it had been "collected out of existence" (1989). The area was revisited during project GRKO-1426 , and investigators also failed to relocate the site. Thus it is presumed that Sharrock collected all of the cultural material present on the surface in 1979, and no further cultural materials have been observed since.

24PW651 (Cultural Sites Inventory # GRKO00022) This historic site was first recorded by Ann Johnson in 1995. It is described as a Euro-American trash dump west of the present curation facility and adjacent to Johnson Creek. Johnson observed bits of metal, glass fragments of various colors, and a rubber bottle stopper. None of these artifacts were collected. At the time of the original recording, the Park was planning construction of a new curation facility. Johnson recommended no further work and that construction be allowed to proceed without restriction.

This site was revisited during project GRKO-1426. The investigators observed a sparse distribution of historic debris in the area (~1 to 2 artifacts per square meter) as Johnson had, and no temporally diagnostic artifacts were among them. North of 24PW651 and just west of the new curation facility--and perhaps associated with 24PW651--is the Tom Stuart homestead, designated GRKO-1426-TS1 (24PW798) and described in full below.

24PW657 (Cultural Sites Inventory # GRKO00007, Field Designation # GRKO02) This historic site is located immediately northwest of the bridge over the Clark Fork River on the main access road (gravel) to the western fields and pastures. First recorded by Ann Johnson in 1996, it is described as a Euro-American trash dump. Johnson observed nails, one concrete water tank, brick, metal sheeting, white ware, clear and green glass shards, and pieces of farm equipment. She notes that the materials appear to have been burned and that the integrity of the

site may have been compromised by fishermen and local youths who frequent the area. She did not collect any cultural materials.

This site may be associated with Cultural Sites Inventory # GRKO00006 (Field Designation #GRKO07 and Museum Accession # GRKO-749), which is a historic dump in the Clark Fork River near the bridge (Chris Ford, personal communication 2003; see below).

The site was revisited during project GRKO-1426 and described thus: 3 x 5 meter dump feature that appears to be the result of one single (or limited subsequent) dumping episode. It consists of bailing wire, wire nails (in general use post-1880), iron hardware, vitreous white earthenware and glass fragments, much of which appears to have been burned. It is hypothesized that the dump originally held paper products and/or organic materials that were set on fire to reduce bulk and odor. The investigators concur with the original site report (Johnson 1996) that the dump post-dates the turn of the 20th century based on the fact that the deposit appears to overlie the 1908 flood deposit seen in the east bank of the river, opposite the site. The age of the site could not be more precisely determined due to the lack of temporally diagnostic artifacts.

24PW693 (Cultural Sites Inventory # GRKO00008, Field Designation # GRKO03, Museum Accession # GRKO-1386) This historic site is located north of the modern pump house (HS88[4]) on the west bank of the Clark Fork River, and south of the main access road to the western fields and pastures. It was recorded by Ann Johnson in 1999 and described as a Euro-American trash dump. The site was first observed by Cheryl Clemmenson ca.1991 and recorded in 1999 due to the excavation of a small ditch intended to drain a wet spot in the field west of the site. Observed in the ditch was a large amount of historic debris, dominated by glass, ceramics and iron. Johnson collected some of the materials using the "grab sample" technique. According to the site report, these include white ware and glass with maker's marks, and are housed at the Grant-Kohrs Ranch under Museum Accession # GRKO-1386. The site's dimensions (9.5 x 27m) were estimated based on surface artifacts and those exposed in an adjacent eroded area.

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[4] HS (historic structure) numbers were assigned by Park employee Mike McWright and former Curator Randi Bry, and correspond to the "last number of the List of Classified Structures identification number" (Chris Ford, personal communication).

This site was revisited during project GRKO-1426. The ditch that had been excavated, revealing the historic debris, was no longer in use. The ditch's location was discerned using the 1999 site report and by recognition of a linear depression on the ground surface (heavy vegetation obscured the ditch's location). At the ditch's northern terminus, where it intersects the Clark Fork River, the investigators observed a small scatter of historic debris dating to the same time period as that observed by Johnson. Heavy vegetation and standing water in some areas precluded a thorough investigation of the ground surface in this area, and so the site's condition and present dimensions could not be established.

Previously Identified Sites Not Assigned Smithsonian Trinomial Designations

The following sites were identified by Ranch personnel and/or Park staff prior to this project. These will be referred to according to their Cultural Sites Inventory numbers (Western Archaeological Center, NPS 1998), and discussed in numerical order. The Field Designation numbers listed in parenthesis are those assigned by Park personnel and provided by Park Curator, Chris Ford. GRKO #s 00001-00005, 00007-00008, and 00022 are the CSI numbers for the sites with Smithsonian trinomial designations discussed above (Johnson 1995).

GRKO-00006 (Field Designated # GRKO07; Museum Accession # GRKO-749) Due to low water levels of the Clark Fork River in 1982, historic materials were identified at the Clark Fork River Bridge. A memorandum from Superintendent Jimmy D. Taylor documents a telephone conversation between Clemmenson and the Regional Archeologist, Rocky Mountain Regional Office, during which a proposal for Clemmenson to record and remove the exposed material from the water was discussed. Park Curator Chris Ford writes that "this site was 'excavated' by GRKO staff during 'low water' of 1982, probably late August. . . The project was conducted under the direction of Cheryl Clemmenson--at that time Chief of Interpretation and Resource Management and considered the site archaeologist and Curator Randi Bry Smith. There was no report made of the excavation" (personal communication). Large quantities of cultural material were recovered, and are curated in the museum collection. No other documentation regarding this project was located.

GRKO-00009 (Field Designation # GRKO04) This site is mentioned in the Cultural Sites Inventory (1998), where it is referred to as a Euro-American trash dump "between [the] ice house and [the] bunkhouse (Clemmenson 1991)." This area was thoroughly investigated during project GRKO-1426, and no cultural material was observed. There are two possible explanations for this. In a conversation with a Park employee, it was suggested that GRKO-00009 and similar historic dump sites in the Grant-Kohrs Home Ranch building cluster (that which encompasses the Grant-Kohrs Ranch House and supporting structures) were "cleaned up" prior to project GRKO-1426, presumably for aesthetic reasons. However, another Park employee believes that the Clemmenson reference (and thus the Cultural Sites Inventory reference) was based on second-hand information and that the site never existed. Having only the abovementioned references and personal communications from which to draw conclusions, investigators were unable to make a clear statement about the nature of the deposit, past or present.

GRKO-00010 (Field Designation # GRKO05) This site was originally listed by Cheryl Clemmenson (1991) as "side of [the] new wing of [the] house" and later incorporated into the Cultural Sites Inventory (Western Archaeological Center 1998) as a Euro-American trash dump. Similar to GRKO-00009, this dump could not be relocated during project GRKO-1426 and is presumed that the site was either removed, or else was listed in the above mentioned references based on second-hand information and never existed.

GRKO-00011 (Field Designation # GRKO06) This site is described in the Cultural Sites Inventory (Western Archaeological Center 1998) as a "depression at chicken coop (outhouse?)" west of the Grant-Kohrs Home Ranch, south of the present-day chicken coop (HS-22). Investigators relocated this site during project GRKO-1426 and observed a rectangular depression in the area indicated in the CSI (Western Archaeological Center 1998). The dimensions of the depression are similar to those of pits that service privy buildings. The National Register of Historic Places nomination form (Hubber et al. 2002) makes mention of two privies, HS-20 and HS-8. The former is given a date of construction ca. 1890 and is said to have stood at the west end of the Home Ranch until it was moved in the early part of the 20th century to the side of the stallion barn. The latter privy is described as a 1934 Works Progress

Administration project, called the "Roosevelt Building," and no indication of original location is given. If this feature is indeed a privy pit feature, its dates of use remain undetermined since it was not uncommon to move the privy building from time to time. Only archaeological testing can resolve the true nature of the depression (see Isolated Find form __ in Appendix __, Volume 2).

GRKO-00012 (**24PW799**; Field Designation # GRKO07) South of the sewage ponds and west of the old Chicago, Milwaukee & St. Paul rail line is a historic dump, traditionally attributed to the Conrad Warren era of the Ranch and referred to as the "Warren dump." In a personal communication with Mike McWright (28-year employee of the Ranch), it was suggested that Conrad Warren used the dump locale from approximately the 1930s to the 1980s. Other members of Park personnel believe that the dump may contain deposits that predate the 1930s. However, this matter can only be resolved through archaeological testing.

The heaviest concentration of debris is bound on the north and the west by a barbed wire fence. To the south-southwest is a series linear depressions believed to be associated with dragline/gravel quarrying activities that took place during railroad construction (GRKO-1426-TS8; 24PW809), and to the northeast is the southern terminus of a large, unnatural berm, also associated with the above mentioned activities (GRKO-1426-TS8; 24PW809). The scatter continues for approximately 30 meters to the north and northwest of the fenced-in portion of the dump. The dump is an accretional feature, exhibiting depth from numerous dumping episodes, and older deposits are presumed to underlie the younger. The materials observed include a rusted and stripped cab of a 1950s or -60s model Chevy truck, perhaps Air Force surplus; non-human bone; Montana license plate (1980 28-T2824); pull-top beverage cans (1963-ca. 1976); metal piping; tires; plastic auto fluid container (carburetor cleaner or similar product); hay bales; plastic, screw-top liquor bottles; fence posts; modern pop-top cans (post-1972); large metal debris; dilapidated couches; two aluminum troughs; washing machine drum with spindle; furniture drawers; door hardware; wire nails (in general use post-1880); paint can with yellow paint residue; concrete chunks; metal trash cans; metal lockers; propane tanks; 1960s-style gasoline cans; the top of a telephone pole; and a large wooden wagon.

GRKO-00013 (Field Designation # GRKO08) This site was initially identified on the list

compiled by Cheryl Clemmenson (1991) as "west of Lyndel's trailer--far feedlot fence," and was later incorporated into the Cultural Sites Inventory (Western Archaeological Center 1998) as a Euro-American dump. Lyndel Meikle is a Park employee who, at the time of this writing, has worked on the Grant-Kohrs Ranch for 27 years. At one time her trailer was located southwest of the Grant-Kohrs ranch house in the Grant-Kohrs Home Ranch building cluster. It has since been moved from that location. The area was revisited during project GRKO-1426. In the location indicated in the Clemmenson report, there is a concrete footer, roughly conical in shape with its base to the east and its point to the west. It measures 4.2 m at the base by 7.9 meters per side and there is a 70 cm wide x 8.4 meter long extension of the concrete extending off the western tip of the conical feature. The nature of this feature is not known, though Park employee Mike McWright (employed at the Grant-Kohrs Ranch 28 years at the time of this writing) suggested that it may have something to do with Conrad Warren's livestock "footbath." At one time, some of his livestock had a problem with infections on the lower legs and hoofs, and so Warren constructed a footbath for them to walk through. McWright believes that the feature GRKO-00013 may be a predecessor to the later footbath. No other explanation of this feature has been offered or located, and its true nature remains unknown. (See also Isolated Find/Feature form, Appendix __, Volume 2).

GRKO-00014 (**24PW808**; Field Designation # GRKO09) This site was initially identified on the list compiled by Cheryl Clemmenson (1991) as a "homestead on [the] west side." It was later incorporated into the Cultural Sites Inventory as a Euro-American homestead (Western Archaeological Center 1998). Investigators concluded that the description refers to the so-called Kading Homestead. This is located in the southwest ¼ of the southwest ¼ of Section 32, Township 8N, Range 9W, in the southwestern portion of the Park property. Archaeologically, the site consists of a partial structural foundation of stone and mortar construction, a few large construction timbers, a rectangular depression to the north of the foundation (6.3 x 6.5m), one possible well feature 32 meters north of the depression feature, four apple trees, and a modern, intact applesauce jar.

The foundation feature consists of three partial, linear "wall" sections. Running northeast-southwest is one section, 2.8 meters long, terminating to the southwest in slumped soil from the hill above. Continuing along the same trajectory, five meters to the southwest of the

first section is the northwestern end of a section which runs northwest-southeast for four meters. Roughly equidistant from the northeast end of section one and the northwest end of section two is a third section, 2.8 meters long and parallel to section two (see map in Appendix __, Volume 2). Were the sections contiguous and the present termini of the sections the true original lengths of the "walls," the structure would measure approximately 5.25 x 10 meters with a wall dividing the structure approximately in half.

A detailed records search, including the Transcribed Deeds and Court Decrees from the Powell County Court House, revealed that Christian J. Kading purchased the parcel of land where the archaeological remains are located in 1901 from first parties with the surnames Saile, Hartz and Tarbon. This parcel was then sold to J. C. Pedersen in 1933. However, this same parcel is listed as "residue" from the C. J. Kading estate to be willed in equal proportions to his three sons, Earl, Noel and Lee, in 1939 (Powell County Transcribed Deeds). The nature of this discrepancy is not understood and no further reference to this parcel of land was located during the records search. It is known that the Ranch was owned and operated by Conrad Warren by 1932 and that he "rejuvenated the old place and [added] to its boundaries" (Sudderth 1980a) which perhaps alludes to the fact that it was eventually acquired as part of the Grant-Kohrs/Warren holdings.

In a series of interviews with Conrad Warren between 1976 and 1990, is was revealed that "In the process of leveling the Kading. . .[property], Warren tore down and old brick kiln site and partially filled a former clay quarry" (Cultural Landscape Report 2003). While these interviews with Conrad Warren and the chain of title are helpful in understanding the ownership and potential uses of the Kading property, they do not however shed light on the specific use of the area described above, the date of construction of the foundation or associated features nor the use(s) of said features. Further, given the lack of additional cultural materials, including construction hardware, it is difficult to assign a date to this site. (See also site report, Appendix __, Volume 2.)

GRKO-00015 (**24PW797**; Field Designation # GRKO10) This site was initially identified on the list compiled by Cheryl Clemmenson (1991) as a "Hobo camp North of [the] L-shaped barn [HS-13] and all through the wetland barrow there is lots of debris. In barrow: car doors, flat pieces of metal for shelters." It was later incorporated into the Cultural Sites Inventory (Western

Archaeological Center 1998) where the final line was interpreted as "In barrow: car doors, flat foundation." This site was relocated during project GRKO-1426. The historic debris scatter averages two meters wide and the feature runs for several hundred meters parallel to the west side of the old Chicago, Milwaukee & St. Paul railroad grade. The concentration of debris is heaviest in the southernmost 132 meters of the site. There are two other rather heavy concentrations of historic materials farther north in the long, linear site. These are indicated on the site maps in Appendix __, Volume 2. These concentrations are composed of discrete piles of debris, the majority of which appear to have been burned. Between the three heavy concentrations are scatters of historic debris of the same types as those found in the concentrations themselves. Among the artifacts observed were: modern bottle glass of various colors; brick fragments; bottle caps; wire nails (in general use post-1880); scraps of fabric; vitreous white earthenware; pane glass; modern light bulb bases; pop top beverage cans (post-1972); miscellaneous metal fragments; hardware (nuts, washers, bolts); strap iron; security glass (wire honeycomb pattern inside thick glass); muscovite "washers" (~4cm diameter, ~1cm thick with a ~2cm diameter bore in center; perhaps associated with the power line which runs through the adjacent wetland, parallel to the site on the west side); glass and ceramic power line insulators; rim sherds from plates with green, transfer print banded patterns on the rim; etc. None of the "flat pieces of metal for shelters" referred to in the Clemmenson report (1991) were observed, and there does not appear to be any identifiable "living" area indicated by foundations or cleared areas for tents. While these items/features may have been present at one time, the site's current condition is more indicative of trash dumping and burning than "domestic" activities.

Park staff notes that the term "hobo camp" is often used by Grant-Kohrs Ranch personnel to identify sites used by individuals, largely during the Depression, who would hop rides on railroad cars and get off in different locations to look for work. Such temporary camps were often used because work-seekers were unable to pay for proper room and board (Chris Ford, personal communication). Commenting on the original draft of this report, however, Superintendent Anita Dore suggests that "the debris are mostly from the rail road dumping junk there from the old shops located south of Deer Lodge. The use of the site as a hobo camp extends into the late 1970s when people could be seen riding the freight cars and camping was done in the area" (2003). (See also site report, Appendix __, Volume 2.)

GRKO-00016 (Field Designation # GRKO11) This site is listed in the Cultural Sites Inventory as being located "between [the] railroad and [the] flume on Union Pacific/NPS land? (Clemmenson 1991)" (Western Archaeological Center 1998). Its cultural affiliation is listed as "unknown" and its documentation and significance levels are "undetermined." The location of this site, as indicated on a map of GRKO sites provided by the Park GIS specialist, Judy Huether, was thoroughly investigated during project GRKO-1426. The area in question is located just east of the Grant-Kohrs Home Ranch building cluster, north of the extant railroad trestle, and east the foot path from the visitors' parking lot to the historic district. In this vicinity investigators located a sparse scatter of historic debris. The debris includes aqua glass power line insulators, railroad crockery sherds, chunks of concrete, orange brick fragments, one sherd of salt glazed stoneware, a large basal shard of a square-based amethyst colored vessel, various other glass shards and a small amount of butchered bone. This scatter is approximately 15 meters east-west by 6 meters north-south and extends down a slope into an unnatural gully between the two railroad lines. Park employee Mike McWright recalls having cleaned up large pieces of sheet metal from this area in the late 1970s, before the Ranch was acquired by the National Park Service. Whether this scatter of historic debris is the site referred to in the Cultural Sites Inventory cold not be discerned from the limited information provided in that document.

GRKO-00017 and -00018 (Field Designation # GRKO12 and -14) These two sites are listed in the Cultural Sites Inventory as being located "between [the] railroad and [the] flume on Union Pacific/NPS land? (Clemmenson 1991)" (Western Archaeological Center 1998). Their cultural affiliation is listed as "unknown" and their documentation and significance levels are "undetermined." The location of these sites, as indicated on a map of GRKO sites provided by the Park GIS specialist, Judy Huether, was thoroughly investigated during project GRKO-1426. The area in question is located just east of the Grant-Kohrs Home Ranch building cluster, north of the extant railroad trestle, and east the foot path from the visitors' parking lot to the historic district. In that vicinity are the east and west accesses of a historic siphon. "The siphon was constructed c. 1908 by the Chicago, Milwaukee, & St. Paul Railroad, as part of the construction of the railroad track. The siphon, which is no longer in use, consists of two poured-in-place

wells joined by a subterranean concrete tunnel that channels water under the railroad grade. The Kohrs family used the siphon for landscape irrigation" (Hubber et al. 2002). These features are believed to be GRKO-00017, and -00018, but were not recorded further during project GRKO-1426, since the siphon was thoroughly documented as part of the National Register nomination for site 24PW118.

GRKO-00019 (**24PW807**; Field Designation # GRKO13) This site is was initially identified by Cheryl Clemmenson as the "Con and Ole dump by prehistoric site and cement granary foundations" (1991) and was later incorporated in the Cultural Sites Inventory as a Euro-American dump: "Con and Ole dump by prehistoric site (24DL(sic)1077?) and granary foundations" (Western Archaeological Center 1998). "Con" refers to Conrad Warren and "Ole" to Ole Berg, a ranch hand and caretaker who worked for Conrad Warren during the 1970s and '80s. Ole is said to have lived in a mobile trailer that was located parallel to and just south of Conrad Warren's chicken coop [HS-59] (Chris Ford, personal communication).

During project GRKO-1426, this dump was relocated near site 24PW1077, west of the Conrad Warren domestic complex which itself is east of the Grant-Kohrs Home Ranch building cluster. Some of the materials in this dump appear to have been burned, and there are a few "clinkers" associated with the historic debris. It appears as though the present scatter, which is concentrated on a slope south of prehistoric site 24PW1077, is the result of the dumping of burn barrels down the slope and thus out of the view shed of the Conrad Warren house. Among the artifacts are a glass nail polish remover bottle (ca. 1970); a milk glass jar with a blue, decal-style label that reads "Toni Cream;" a dark blue Noxzema-style jar; a tube of acrylic paint; a pair of scissors; brick fragments; pull tabs from beverage cans (1962-ca.1974); a lipstick tube; a Band-aid-style, hinge-top box; a perfume bottle that reads "Muguet Coty Desbois 8oz;" a 1920 penny from Great Britain; and a foreign copper coin, the very high design relief on which bespeaks age, though the design, and therefore the origin and authenticity, could not be discerned. (See also site report, Appendix B).

The date of the Great Britain penny and the potential antiquity of the foreign coin appear to be incongruous with the dates of the other artifacts visible on the site's surface. In the comments on the draft of this report, it was noted that Nell Warren, Conrad's wife, was a collector of coins and that Conrad may have disposed of some of her belongings after her death

(Dore 2003). Given the general date range (ca. 1950-ca. 1980) of the site, the "domestic" nature of the majority of the artifacts, and the site's proximity to the Warren House, this dump is probably attributable to the Conrad Warren era of occupation. Whether this site has buried deposits that predate the 1950s could not be established during Cultural Resource Inventory GRKO-1426.

GRKO-00020 (**24PW806**; Field Designation # GRKO15) This site was initially identified on the list compiled by Cheryl Clemmenson (1991) as "Lots of debris on [the] westside [sic] -- (Bud and friends used old prison crockery for target practice. . .)" It was later described on the Cultural Sites Inventory as a Euro-American dump (Western Archaeological Center 1998). "Bud" is Conrad Warren II's nickname, and it is said that in his youth he did a lot of shooting in the western portion of the project area. Site GRKO-00020 is an extensive scatter of historic debris in the general area indicated on the map of GRKO sites provided by the Grant-Kohrs GIS department. The scatter covers approximately 2725 square meters, extending down a natural drainage between two knolls and around the southern end of the western-more knoll of the two. Artifact densities range from as few as 1-2 per square meter and as many as 15 per meter squared. The scatter is dominated by fragments of glass and ceramic with a few, generally unidentifiable, can fragments. Some of the ceramics have maker's marks, photographs of which are provided with the site form, appended hereto in Appendix __, Volume 2. Some of the surface decorations are also indicative of manufacture and use. For example, many pieces have circular polychrome decals applied close to the rims of vessels that read "DINING THE INTER-STATE NEWS SERVICE." These are presumed to be railroad ware. Also observed was an amethyst bottle base with the patent date, 1903, embossed. Further, there are a few rather heavy basal sherds of vitrified white earthenware that read "ROUTELL BROS MINNEAPOLIS MINN" in green transfer print (a similar maker's mark was recorded at site 24PW693). In addition to these potentially diagnostic artifacts, salt-glazed stoneware, oyster shells, undecorated vitreous white earthenware sherds, orange brick fragments, and glass shards of various colors (contemporary green and amber predominate) were observed. No shell casings were observed with the historic debris. This does not, however, contradict the oral tradition that this site is the result of Conrad Warren II's target practice. The casings would have fallen at the feet of the shooter, potentially well removed from the location of the targets, and Warren may

have collected his casings after shooting. The dispersal of the artifacts and the fact that very few artifact fragments were even semi-articulated on the ground suggest that the pieces were violently dispersed, as might occur with shooting, and/or that the area was periodically mechanically disked (Hartley et al. 1989).

GRKO-00021 (24PW805) The location of the site referenced in the both the Cultural Sites Inventory (Western Archaeological Center 1998) and the Clemmenson report (1991) was difficult to discern. This site was initially identified on the list compiled by Clemmenson where it is described as "Lots of isolate 'rotting' farm machinery, i.e.: in at least three spots in willows, binder on west side by old phosphate mine" (1991). It was later described in the Cultural Sites Inventory as a Euro-American phosphate mine (Western Archaeological Center 1998). Given the cultural resource map provided by the Grant-Kohrs GIS department and the physical location of a large depression surrounded by piles of brick and metal debris (northeast ¼ of the northwest ¼ of Section 32, Township 8N, Range 9W), it was determined that the latter is the site referenced in the CSI and Clemmenson reports.

The site is composed of one large (~20m diameter), roughly circular feature excavated into the side of a west-facing knoll, which is part of a larger east-west trending ridge. To the north and east of this feature are 12 discrete piles of stone, stone and brick, stone and miscellaneous metal debris (strap iron, hinges, barbed wire), concrete, and wood (boards and posts). All of the debris is coarse; investigators did not observe any glass, ceramic, nails, or other relatively small cultural materials. Inquiries into mining activities on the property shed little light on the nature and date of this and similar features. Some of the Park personnel had heard of such activities taking place, though it was generally believed that only placer gold mining was attempted in the area, and its occurrence on the property was dubious. However, one Park employee stated that the early land owners attempted to mine for phosphates in the western foothills of the property but found that the phosphates were either not of the right quality or else not abundant enough to make further mining or testing worth the cost. (See also site report, Appendix __, Volume 2).

Project GRKO-1426 Sites

The following are sites located during project GRKO-1426. These were assigned field

designations of Temporary Site (TS) or Isolated Find/Feature (IF). Upon receipt of the project's Grant-Kohrs Muesum Accession number (1426), the TSs and IFs were assigned numbers that incorporated both the project accession number and the field designation (i.e. GKRO-1426-TS3) in order to facilitate their recognition as sites located during this project. The TS and IF numbers were retained in this document even in cases where sites were assigned Smithsonian trinomial designations so as to maintain continuity between this report and the original field notes kept by project GRKO-1426 investigators. Additional information can be found on the CRIS forms, located in Appendix __, Volume 2.

GKRO-1426-TS1 (**24PW798**; Museum Accession # GRKO-110) The historic Stuart Homestead is located on a ridge west of the present curation facility and east of the extant rail line, in a southeastern portion of the Grant-Kohrs property referred to as "Stuart Meadow" (Courchene 1989). This area is included in the acreage that constitutes the National Historic Site, but is excluded from the National Register of Historic places nomination.

Historically, much is known about the Stuart family and their involvement in western Montana mining operations and politics. Brothers Granville, James and Tom Stuart were all involved in mining operations that brought them to the Deer Lodge area. Tom Stuart married Mary Ellen Armell in 1865, at which point (or shortly thereafter) they located to the "Stuart homestead" in Stuart Meadow (Courchene 1989). The Tom Stuarts and their eleven children lived for several years in the house on the Grant-Kohrs property, but moved into Deer Lodge proper after four of the children died of diphtheria some time after the turn of the 20th century. "After Stuart's departure, the house was rented to a Kohrs ranch hand who lived there for approximately 30 years. After he moved, the house was demolished so that it would not serve as a refuge for railroad bums" (Brown 1975 citing Paul Gordon, personal communication). At various times after the demolition of the structures in the Stuart Meadow, the area served as an additional parking area during special events at the fairgrounds across Main Street from the site. Since the acquisition of the property by the National Park Service, the area is no longer used for parking, though cattle are periodically rotated into the field for grazing.

In 1975, Winifred Brown conducted an archaeological investigation to assess the potential impact of proposed Park developments including a parking lot, a paved walking path and a visitors' center, on the Stuart site and other sites in the area. As a result of this survey,

Brown recommended that a "no work" (i.e. no construction) boundary of 50 feet north, 30 feet east and south, and 75 feet west of the Tom Stuart site be established. Avoidance was carried out per her recommendation and later that year she conducted limited archaeological testing in the immediate area of the proposed parking lot and visitors' center to determine whether any cultural resources would be disturbed during the planned developments. It was determined that construction in the proposed area posed no threats to cultural materials.

During project GRKO-1426 it was determined that, archaeologically, the Stuart Meadow is characterized by a number of small depressions and a light scatter of historic debris. Nine discrete features were located during project GRKO-1426. The first is a circular depression, 3 meters in diameter and 30-40 cm deep, containing brick fragments and rocks of various sizes. Adjacent to this feature is a similar circular depression, 2 meters in diameter and 50 cm deep, containing rock and brick fragments. To the north of these is a linear feature: a slight mound 13 meters long, 2 meters wide, and approximately 10-20 cm above the surrounding ground surface. The southwest corner of this linear feature is characterized by a concentration of rock and brick. The placement of a small number of these bricks is mildly suggestive of deliberate laying. The highest concentration of brick at the site is in and around these three features and the highest concentration of historic debris is located just south of them. Feature four is a small, circular depression, 1 meter in diameter and 10-15 cm deep. No cultural material is located inside this feature and cultural materials are sparse in the general area. Feature five is a small concentration of stones (<1 m in diameter) with scant artifactual debris in the area, including one piece of unidentifiable iron protruding from the pile. The sixth feature is rectangular with a total length of 9 meters. The feature is 3 meters wide and 10-20 cm deep and comprised of three distinct depressions, each approximately 3 x 3 meters. To the south of this is another depression, 2 x 2.5 meters and 10-15 cm deep. The distinctive vegetation inside this depression--thick, dark green grasses--and the lack of cultural material in this area are suggestive of its use as a privy pit. There is a small rectangular depression (2 x 0.5 meters) east of the "privy" feature. The characteristics of this feature are more suggestive of taphonomic disturbance than cultural activity. However, this cannot be confirmed without further investigation. Finally, in the northwest of the site are two concrete slabs, approximately 50-60 cm squared and one meter from one another, and lying flush with the ground surface.

Among the Stuart homestead artifacts are orange brick fragments, clear and sun-colored

amethyst vessel glass[5], pane glass fragments, various bits of iron, milk glass (at the height of its popularity in the United States between 1870 and 1880), machine cut nails (1815-ca. 1880), and modern wire nails (in general use post-1880). Among the potentially diagnostic artifacts is one intact, squat, molded bottle of clear glass, the base of which reads "Barton's Dyanshine." Given their proximity to one another and the similar cultural materials found therein, GRKO-1426-TS1 and 24PW651 may be related.

GRKO-1426-TS2 (24PW804) In and around a relatively small (18 meters at the widest), steep natural drainage in the western portion of the project area is a historic dump. The dump debris is most heavily concentrated in the drainage proper, though there is a light scatter of small debris (predominantly glass and ceramic) to the east, south and west of the drainage. The site dimensions are detailed on the site form appended hereto in Appendix __, Volume 2. On the east side of the dump feature, above the lip of the drainage, is a large concentration of bone. Field analysis indicates that the majority is of the genus *Bos* and the site may be used periodically for the disposal of dead livestock. The dump consists of a wide range of material types including iron and other metals, glass, and ceramic. Material forms include one wooden-spoked wheel, shovels, barrel hoops, chicken wire, 50-gallon metal drums, a plow hitch, a horseshoe, and various types of glass and ceramic vessels. A number of the artifacts observed at the site are potentially diagnostic. One bottle base and partial body shard of moderately patinated aqua glass exhibits mold scars that may have been ground out. The basal diameter is 6 cm and embossed in the center is " V 199 5" (see site form in Appendix __, Volume 2 for

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[5] Using the presence of sun-colored amethyst glass in historic deposits to assign dates to those components has received much critical attention in recent years. The amethyst color results when the additive manganese oxide reacts to sunlight. Some archaeologists have suggested that this reaction /color change happens at a predictable rate and that one can thus date deposits by the presence of amethyst glass. However, the rate of reaction varies according to length and intensity of sun exposure. Nonetheless, manganese oxide was only used as an additive between ca. 1880 and ca. 1920. The presence of amethyst glass can thus be used as a *terminus post quem*, though it should not be relied upon as a sole dating technique.

photographs of artifacts). One amethyst-colored vessel base (5.2 cm in diameter) with partial body and finish reads "Patented Jun.9.03 Jun.23.03." A third vessel fragment of very lightly sun-colored amethyst is rectangular and has molded on its body a scale with increments at nearly 1 cm (just under ½ inch) apart. This is possibly a medicine or "remedy" bottle and the increments may be liquid dosage measures. There is much vitreous white earthenware. One sherd has a green transfer print maker's mark that reads "G.P.C.O. SYRACUSE CHINA." Other sherds exhibit the stylized polychrome railroad decal "CMSP" (Chicago, Milwaukee & St. Paul) on heavy cup rims and segmented cafeteria-style plates (these are known to be associated with Shenango China, New Castle, PA and made for Albert Pick Company of Chicago [Johnson 1999]). Given the depth of the deposit and the range of materials present, this feature likely represents a multi-episode dump with materials that date from the turn of the 20th century to at least the middle of that century, though the date of the artifacts do not necessarily indicate the date of the deposit.

GRKO-1426-TS3 (24PW803) A number of local accounts and maps refer to a concrete foundation in the northeast ¼ of the northwest ¼ of Section 32, Township 8N, Range 9W as the "Pig Farm." Though this is the informal name of the property, no living employee of the Ranch nor any official document explains the designation satisfactorily (Sudderth 1980a). A chain of title search revealed that the land on which the structure was located was purchased by C. J. Kading in 1895 from Larabie and Reed as part of a 240-acre transaction (Powell County Transcribed Deeds Book 7). Investigators were unable to locate subsequent reference to this parcel; it was not part of the large transaction between Kading and Pedersen in 1933, nor is it mentioned in Kading's 1939 will (Powell County Bill of Sale 1933; Powell County Court Decrees Book 3). It is known that the Ranch was owned and operated by Conrad Warren by 1932 and that he "rejuvenated the old place and [added] to its boundaries" (Sudderth 1980a), which perhaps alludes to the fact that it was eventually acquired as part of the Grant-Kohrs/Warren holdings. In various interviews with Conrad Warren, details of property alteration are revealed: ". . .during WWII, Con razed and plowed the former homestead of a German butcher and a concrete tank that was used for scalding hogs on the Dalton property" (Cultural Landscape Report 2003, from interviews with Conrad Warren between 1976 and 1990). However, the precise locations of the abovementioned resources are not disclosed in the Cultural

Landscape Report (2003) and thus nothing can be discerned with certainty about the nature, use and dates of the foundation and related features described herein.

Archaeologically, GRKO-1426-TS3 (24PW803) consists of a partial brick, stone and concrete foundation, an unnaturally hummocky area (ground disturbance), a linear stone and concrete feature to the west of the foundation, and a scatter of historic debris. In a personal communication with Mike McWright (28-year employee of the Ranch) it was established that there had also been a well down slope from the foundation that was filled-in by McWright in the 1980s. This feature could not be relocated.

The foundation feature consists of one semi-contiguous stone and concrete section approximately 9 meters long, oriented along a north-south axis, and two adjacent concentrations of large concrete slabs and chunks of rock and concrete. One of these concentrations is located on the east side of the linear feature, approximately 2 meters south of the linear feature's northern terminus and the other is located on the west side of the linear feature, approximately 7 meters south of the northern terminus (see site form in Appendix __, Volume 2 for details). Among the historic debris are orange brick fragments; stone; vitreous white earthenware; glass of various colors including clear, milk, and sun-colored amethyst; large amounts of wire; strap iron; and a piece of leather strap with holes for a buckle tine.

GRKO-1426-TS4 (24PW802) East of the "Pig Farm" (GRKO-1426-TS3; 24PW803) is a circular depression, approximately 5.5 meters in diameter and 1.5 meters deep. The northern half of the depression is filled with stones which slope from ground level to the center of the depression. In the southwest quarter of the feature is a concentration of metal debris including strap iron, pieces of stove pipe, an air filter of a large piece of machinery, and three Montana license plates (all 1955: 46-313; 28-T477; 28-378). Above the rim of the depression on the east side is a piece of farm equipment, in general disrepair and lacking temporally diagnostic indicators such as patent numbers or manufacturer information. Limited mining activities may have taken place on the property during at least the Warren era and this feature may represent one such effort.

GRKO-1426-TS5 (24PW801) On the west bank of the Clark Fork River, just south of the where it turns hard to the northwest, south of the sewage ponds, is a gravel bar with a light

scatter of historic debris. The feature is 22 meters long by 6 meters wide, has a surface artifact density of approximately 10 per square meter, and does not appear to have any depth. The debris is dominated by glass and includes: amethyst glass fragments; one ovoid amethyst basal shard with molded lettering that reads "2-OUNCE;" one piece of melted amber glass; one shard of olive glass (basal shard with kick up and foot); a light, sun-colored amethyst vessel neck shard and with a partial, threaded finish (post-1858); an olive glass basal shard with foot ring and a high kick up; one shard of vitreous white earthenware; aqua glass fragments; and milk glass fragments (at the height of its popularity in the United States between 1870 and 1880). Much of this material exhibits water wear such as rounded edges and striations. The site appears to be the result of alluvial deposition--its location at a bend in the river and on a relatively high place (~25 cm above the surrounding ground surface) suggests that the materials were washed from their primary context farther up river and deposited secondarily when the water lost velocity at the high spot and dropped part of its bed load. The presence of burned materials in the deposit suggest that the primary dump location may have been burned, which would be consistent with trash disposal practices of the general time period and those observed in primary dump locations elsewhere on the Ranch property (Johnson 1995b). Among the datable materials were a bottle base with an "AB (diphthong)" (1904-ca.1916) and an H. J. Heinz Co. bottle base, tentatively dated to between 1897 and 1903. This site may be a result of the 300-year flooding episode in 1908.

GRKO-1426-TS6 (24PW796) This site is located immediately south of 24PW797 (the "hobo camp"). It is composed of several features, the combined function of which may have contributed to railroad activities during the early part of the 20th century. West of the Chicago, Milwaukee & St. Paul Railroad grade is what appears to be a section of a railroad spur, though its true nature is unknown. There are several wooden ties at regular intervals partially exposed on the ground surface. If this feature was a spur, the rails themselves may have been salvaged after the spur was no longer in use. This alignment of rail ties is 4.2 meters long. West of this feature is a concrete foundation, approximately 12.5 x 2 meters long. West of the southern terminus of the foundation feature is a concentration of coarse gravels that extends west for approximately 3 meters. West of the northern terminus of the foundation feature is a concrete-lined shaft extending some distance into the ground. The shaft is 55 cm in diameter and is

currently filled with large debris including scrap metal. This feature may have provided access to ground water. North of the northern terminus of the foundation feature is a second concrete foundation feature. This feature is rather amorphous in shape with one roughly rectangular slab (1.8 x 4.4 m) abutting an "L-shaped" concrete slab. In the crotch of the "L" is a depression, the depth and nature of which could not be discerned as it is filled with large debris, such as scrap metal, at this time. West of these foundation features are a berm and a second alignment of railroad ties. The berm extends the entire length of the site, tapering at each end from approximately 60 cm above the surrounding ground surface to flush with the ground surface. It is composed of large chunks of concrete, scrap metal and mounded earth. The alignment of railroad ties consists of five ties, lying flush with the ground and only partially exposed, and measures 3.35 meters in length. A number of utility poles run past this site on the east side. These are no longer in use and at least one has been cut down. One, however, still has wires attached and it was observed that many lines run down the pole at site 24PW796. These may have supplied power to the building/buildings that once stood at the site.

Between each of these features is a light scatter of historic debris. Most prevalent among the debris is glass, the shards of which are generally small (2-3 cm) and range in color from amber to modern green to clear. A small number of wire nails was also observed as were railroad spikes and chunks of concrete.

It is suspected that this site was included in the Western Archaeological Center's Cultural Sites Inventory (1998) as part of GRKO-00015. GRKO-00015 was initially identified on the list compiled by Cheryl Clemmenson (1991) as a "Hobo camp North of [the] L-shaped barn [HS-13] and all through the wetland barrow there is lots of debris. In barrow: car doors, flat pieces of metal for shelters." It was later incorporated into the Cultural Sites Inventory (Western Archaeological Center 1998) in which the final line was interpreted as "In barrow: car doors, flat foundation." No foundations were located in association with the piles of historic debris that comprise site GRKO-00015 (24PW797; "hobo camp"). The current cultural resource survey, project GRKO-1426, treats sites GRKO-00015 (24PW797) and GRKO-1426-TS6 (24PW796) separately, as there is no conclusive evidence to suggest that they are temporally or functionally related.

The functions of the features that make up site GRKO-1426-TS6 (24PW796) are not known, though they may have had something to do with a gravel harvesting operation that took

place northwest of the site. These activities are discussed below under GRKO-1426-TS8 (24PW809). (See also CRIS form in Appendix __, Volume 2.

GRKO-1426-TS7 (24PW800) This site is located on the western bank of the Clark Fork River, northwest of GRKO-00007 (dump northwest of Clark Fork River Bridge) on a gravel bar similar to that of GRKO-1426-TS5 (24PW801). The deposit is 32 x 10 meters and there is an artifact density of approximately 6 per square meter. Given the local historic methods of trash disposal (Johnson 1995b) and alluvial site formation processes, it is reasonable to conclude that the deposit is secondary, having been washed out of its original dump location during a flooding episode and deposited on a high spot at a hard turn in the river. Among the artifacts observed were: vessel glass (clear, aqua and some sun-colored amethyst), and vitreous white earthenware, some with polychrome decals in what appears to be a Greco-Roman revival style (see site form, Appendix __, Volume 2).

GRKO-1426-TS8 (24PW809) This site is located immediately south and east of GRKO-00012 (the "Warren dump"). It is composed of several features, which in conjunction may have served as an open-pit gravel mining operation to supply materials for railroad grade construction. Feature 1, the southernmost feature, is located west of the wetland created in conjunction with the construction of the railroad. It consists of a mound (11.8 x 6 meters) of medium-sized cobble gravel (12-20 cm) of rounded basalt and quartzite. The mound at its highest is 1.5 meters above the surrounding ground level. Roughly centered within the pile of rocks is a wooden structure, whose ends are exposed and jut out from the rock pile. The horizontal lumber is 15 x 15 cm and the cross beams are boards 28 x 4 cm. These are held together by large gauge wire nails. Also observed were lengths of large gauge cable and a metal pipe (20 cm diameter) sticking up out of the wooden structure and rock pile. The entire feature slopes from N-NW to S-SE and, if one were to follow its trajectory through the wetland, it would terminate in the vicinity of site 24PW796 (concrete foundations/other features south of the "hobo camp").

North of Feature 1 and up a gentle slope of fill, is Feature 2. Feature 2 consists of a wooden structure partially covered with fill. The feature measures 1.3 x 3 meters. The timbers and hardware are similar to those in Feature 1 (vertical timbers 15 x15 cm; cross pieces 28 x 4 cm; wire nails) and this feature also slopes from N-NW to S-SE. Its function is unknown.

North and northwest of Feature 2 is an extensive pile of large cobbles (20-40 cm and larger). This pile continues west around Feature 3.

Feature 3 is located west of Feature 2. It consists of mounded fill with small amounts of small stones. Excavated into this mounded fill, or surrounded and partially covered by it[6], is a wooden structure similar to Feature 1. Its western terminus is visible despite the fill and is rectangular in shape. The feature is constructed of timbers and hardware of the same general dimensions as those in Features 1 and 2. It measures 8.3 x 1.6 meters.

Immediately west of Feature 3 is the southern terminus of an unnatural berm approximately 15 meters wide, 3 meters high, and 618 meters long, running north-south. There is no cultural material located on or east of the berm until one reaches its southern terminus and intersection with GRKO-00012 (24PW799), the "Warren dump," where there is a large pile of coiled, large-gauge cable atop the berm. East of the berm is a flat area approximately 40 meters wide at the north end and tapering to the south, terminating in a wetland. The flat area exhibits what may be dragline scars associated with gravel harvesting activities. Adjacent to the flat area to the east is a wetland/borrow area, suspected to have been created in association with the railroad line and whose creation may have resulted in the formation of the berm. There is a virtual absence of trash or historic debris on the flat area between the wetland and the berm. The trees along the perimeter of the wetland appear to be relatively young growth--the largest among them being approximately 20 cm in diameter.

To the west of Features 1-3 and south-southwest of the Warren dump (GRKO-00012; 24PW799) are a number of drag lines. These extend for several meters and appear to radiate from the western end of Feature 3. These lines are evidence that gravel was extracted from this site. It is speculated that Features 1-3 and the pile of large cobbles are associated with gravel sorting activities and perhaps the loading of gravel into rail cars (Mike McWright, personal communication). It is not known in what year(s) these activities took place. It is known, however, that the earliest rail line passed through the area in 1883. The Chicago, Milwaukee &

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[6] Wooden features 1-3 may have been components of a sorting machine(s), in which case the mounded stones and earth could be the byproduct of the sorting rather than functional components of the features.

St. Paul line initially came through the area in 1907. Either of these dates or subsequent modifications to either of the rail lines in following years could be responsible for the features at site GRKO-1426-TS8 (24PW809).

Project GRKO-1426 Isolated Finds and Features

The following are the isolated finds and features located during project GRKO-1426. Additional information can be found on the Isolated Find/Feature forms appended hereto in Appendix __, Volume 2.

GRKO-1426-IF1 This isolate is the midsection of an obsidian projectile point. It measures 20 mm (proximal-distal) by 22 mm (lateral). Not enough of the point is present to place it typologically, and thus temporally.

GRKO-1426-IF2 This fine-grained basalt projectile point measures 45 mm (proximal-distal) by 23 mm (lateral). The point is very similar to Hanna points of the McKean complex. However, the base of the point is slightly damaged and a clear typological designation is difficult to make.

GRKO-1426-IF3 This piece of farm equipment appears to have been abandoned and was almost certainly not placed intentionally for interpretive purposes given its location in a far western portion of the property, quite removed from the Grant-Kohrs Ranch/Warren Ranch building complex. It is constructed of wood and wrought iron and appears to be an animal-drawn cutting device. It exhibits an intricate system of pulleys, levers and cogs and the code "E591." The equipment measures approximately 2 meters long by 1 meter wide by 1.5 meters tall. Its appropriate name and function have not been established.

GRKO-1426-IF4 This piece of equipment is a "drill" or device used in seeding fields, and constructed of cast iron and wood. It is approximately 1.5 x 0.75 meters, has a pole hitch for towing and an odometer-type gauge. It also has a molded manufacturer's mark that reads "Janesville Machine Co. Wisconsin." Its date of manufacture and the nature of its deposition in the present location have not been established.

GRKO-1426-IF5 This isolate is a wooden structure, approximately 4 meters long by 1.75 meters wide by 1.75 meters high, constructed of wooden boards and wire nails. The structure is probably not in its original location, since it sits upon a drag or set of wooden skids. This structure has been identified as a calf creep feeder (Chris Ford, personal communication). It is similar to one located between the Warren House [HS-15] and the Visitor Center which dates to the 1950s and was used to feed late calves. Park Curator Chris Ford suggests a date of ca. 1945 for GRKO-1426-IF5 (personal communication).

GRKO-1426-TF6 East of the Clark Fork River and south of the sewage ponds is a bridge that spans the large "no name" ditch, west of the Kohrs-Manning Ditch. The bridge is constructed of wooden boards and wire nails. It measures 3.2 meters wide by 8.7 meters long. The four corner supports are large, railroad tie-style timbers. Superintendent Anita Dore suggests that the bridge was constructed by the National Park Service in the early 1990s (Dore 2003).

GRKO-1426-IF7 This isolate is a hay stacker located in the northwest portion of the project area. It is constructed of wood and modern, machine-produced hardware (nuts, bolts, washers) with iron wheels and a cable and pulley system. This particular stacker is identified as a Jenkins Stacker used by Conrad Warren before WWII (Chris Ford, personal communication). There is a light scatter of historic debris, including glass and beverage cans (apertures not discernable) located around the stacker.

GRKO-1426-IF8 This gravel quarry, located west of the Clark Fork River, in the south-central portion of the project area was excavated in 1961 to extract materials for construction of highway I-90. The feature is concave, measuring approximately 108 meters at its widest and 54 meters into the side of the hill. The area was partially reclaimed in 1993. There are no cultural materials associated with the mine feature.

GRKO-1426-IF9 East of 24PW1076 is a piece of abandoned farm equipment. This isolate was identified by Robert O'Boyle as a disk hitch (for attaching a disking machine to a vehicle) constructed of wood and cast iron and measures approximately 3.2 by 2 meters.

GRKO-1426-IF10 On the east bank of the Clark Fork River and south of the Clark Fork River Bridge is a dilapidated wooden structure. The structure is 3.78 meters long by 2.17 meters wide, constructed of 2 x 4 and 2 x 6 inch wooden boards and five inch wire nails, and appears to be a drag or one wall of a larger structure. The nature of the deposit is ambiguous as well; it is unclear whether the isolate is in primary or secondary context which also complicates the understanding of its function. No date has been assigned to this isolate.

GRKO-1426-IF11 This isolated find is composed of three concrete slabs with substantial iron rings set into them. The slabs measure 100 x 60 x 8 cm and each of the two rings are located 25 cm in from the short sides of the slabs. The rings are ~5 cm in diameter. The slabs form a triangle, with the base to the north and the apex to the south. They are located approximately 5.7 meters from one another. They appear to be in their original location or else placed deliberately in their present location. Their function is unknown, though one Park employee speculated that they may have had something to do with restraining bulls or securing large equipment (Mike McWright, personal communication).

GRKO-1426-IF12 This feature is a utility line illustrated on the linear features map (fence lines, ditches and power lines) provided by the Grant-Kohrs GIS department. The line has been disassembled; the poles cut down and the wires removed. Approximately 330 meters of the poles were left in place along the NPS boundary fence where they had been cut down, perhaps in the early 1980s (Mike McWright, personal communication). The insulators are glass, in roughly equal proportions of clear and aqua.

GRKO-1426-IF13 Approximately 200 meters south of the northern project boundary and 60 meters east of the western project boundary is a wooden skid or drag. The isolate measures 2.44 x 3.66 meters, constructed with 2 x 8" boards and wire nails (60-penny predominate, though other gauges are present). This isolate has a heavy chain at the front end for attaching to a vehicle. Some round timbers resembling fence posts (1.5 meters long and 5-10 cm in diameter) are stacked on the skid and strewn about the general area. There is also some barbed wire, probably associated with the fencing posts, but no other cultural material is present.

GRKO-1426-IF14 and -IF15 These two features appear to be mining/mineral testing sites cut into two natural hills in the S½ of the NW¼ of Section 32. The western feature of the two is IF14, and the eastern is IF15. Very little cultural debris is associated with these features and the date(s) of their excavation could not be discerned.

GRKO-1426-IF16 This site is located west of the Grant-Kohrs Home Ranch building cluster at a bend in the main access road to the western fields, east of the bridge over the Clark Fork River and just southeast of a large, wooden flume. On the east side of the gravel road, in a stand of cottonwood trees, is a pile of wooden construction debris. The debris consists of boards--1 x 8 inches, 1 x 4.5 inches, and modern 2 x 4s--with a scant amount of hardware, dominated by wire nails. Wire nails were not in general use until the 1880s, which provides a *terminus post quem* for the debris, and they remain in use today. The presence of modern 2 x 4 boards may represent repairs to an older structure. However, no other cultural material was observed in the area, without which a more narrow date range could not be determined for the site. Furthermore, it could not be established whether the debris is in primary or secondary context. The fact that the site is in a low-lying area--at or just above the water level of the irrigation ditch west of the site--and the ground at the time of investigation was saturated may indicate that the area is prone to flooding which would make questionable a primary context. The materials could have been imported to the area in order to control flooding or fill in a low spot. However, the stand of trees in which the debris is located is fairly substantial, with tree trunks approximately 25 to 30 cm in diameter. Though again, in the absence of other cultural materials, it is difficult to discern whether the trees grew up around the debris or whether the debris was placed "out of the way" in an existing stand of trees. It has been suggested by a Park employee that the debris is the remains of a flume or flumes that used to service the irrigation ditches located south of the present feature. The flume(s) guided water diverted from Johnson Creek over two access roads and another substantial irrigation ditch, into western Stuart Field (Mike McWright, personal communication). (See Isolated Find form in Appendix C, Volume 2).

GRKO-1426-IF17 South of GRKO-00015 (24PW797; the "hobo camp") and 20 meters due west of the old Chicago, Milwaukee & St. Paul rail line is a historic dump. The dump is 13

meters (north-south) by 8 meters (east-west) and consists of course materials only, such as rail road ties, bared wire, metal cable, iron debris, an old metal water trough, and felled timbers. This site is considered separate from GRKO-00015 (24PW797; the "hobo camp"), and GRKO-1426-TS6 (24PW796) since the two are separated by more than ten meters without a scatter of artifacts between them. Furthermore, there is no conclusive evidence that the sites are temporally or functionally related.

GRKO-1426-IF18 This feature is a small, square depression located west of the access road that parallels the railroad lines north-south through the property. The depression is 2.44 x 2.44 meters (8' x 8') and is said to be the location of a small structure, an "oil house," that serviced the railroad. A Park employee suggested that it had been removed by the railroad company ca. 1981 when the Chicago, Milwaukee & St. Paul Railroad company went bankrupt and salvaged the tracks (Mike McWright, personal communication).

GRKO-1426-IF19 This feature is located on the east bank of the Clark Fork River, east of the pump house (HS88). It consists of a number of timbers apparently lain perpendicular to the River channel and some large rocks (20-40 cm) that are inconsistent with other rocks in the general area. The feature extends 6 meters north-south and appears to have burned *in situ*. The burning is neither complete nor substantial. Two machine cut nails were also observed on the ground near the feature. It was suggested by a Park employee that this is perhaps a bridge head, though no corresponding feature is seen in the opposite bank (Mike McWright). A second explanation is that it may have been used as riprap to stabilize the river bank at that point.

VI. RECOMMENDATIONS

Given the nature of the archaeological materials found at the Grant Kohrs National Historic Site, we make the following recommendations. We also suggest that special attention should be focused on six sites in particular: 24PW1078 (prehistoric site west of curation facility), 24PW798 (Stuart homestead), 24PW693 (historic dump near pump house [HS88]),

24PW657 (historic dump near Clark Fork River Bridge) and 24PW800 and -801 (historic debris scatters along Clark Fork River). Each site located within the Grant-Kohrs Ranch National Historic Site is discussed separately below.

24PW1076 (prehistoric "tipi ring" site in western portion of property) This site was first identified by Sharrock (1973), during which survey no cultural materials, aside from the tipi rings, were observed. The site was revisited by Hartley and Wolley (1989), who reported and collected several artifacts. Cultural materials were observed at this site during the present survey (GRKO-1426) despite the surface collecting done in 1989. This led investigators to believe that materials continue to erode out of the site. We therefore recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

24PW1077 (prehistoric site west of the Warren domestic complex) No cultural materials were observed at this site during the present survey (GRKO-1426). However, since prehistoric materials were observed in the area in the past, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

24PW1078 (prehistoric site west of curatorial facility) We recommend that this site be given special consideration. This site was tested for subsurface materials in 1975 (Brown 1975b), at which time it was reported that the subsurface deposits were shallow and that the test units yielded little cultural material. However, in our opinion, given the continued presence of surface artifacts despite surface collection during all previous investigations (Sharrock 1973c;

Brown 1975b; Hartley and Wolley 1989), we believe that 24PW1078 is the most extensive prehistoric deposit on the property found to date and further testing of this site might establish its eligibility for listing in the National Register. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

24PW1079 (prehistoric site in the western foothills of the property) This site could not be relocated during either the Hartley et al. survey in 1989 or the present survey (GRKO-1426). A general description of the site's location is given in the original site form (Sharrock and Ramos 1973), but no UTMs were ever recorded. Therefore, no specific recommendation can be made for the management of this site.

24PW651 (historic refuse scatter west of present curatorial facility, adjacent to Johnson Creek) This site is not believed to offer any potential for a better understanding of the goings-on at the Grant-Kohrs Ranch National Historic Site. Nonetheless, since the present survey (project GRKO-1426) involved surface investigation only and the visibility was frequently impaired by thick vegetation, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

24PW657 (historic trash dump northwest of the Clark Fork River bridge) We believe that this site should be given special attention in light of the proposed Superfund activities in the riparian zone. This site was first recorded by Ann Johnson in 1996 and was revisited during project GRKO-1426, at which time it was described thus: 3 x 5 meter dump feature that appears to be the result of one single (or limited subsequent) dumping episode. It consists of bailing

wire, wire nails (in general use post-1880), iron hardware, vitreous white earthenware and glass fragments, much of which appears to have been burned. The investigators concur with the original site report (Johnson 1996) that the dump post-dates the turn of the 20th century based on the fact that the deposit appears to overlie the 1908 flood deposit seen in the east bank of the river, opposite the site. The age of the site could not be more precisely determined due to the lack of temporally diagnostic artifacts. The Park may wish to consider limited testing of this site to determine the age, nature and integrity of the deposit prior to any ground disturbing activities associated with the Superfund project or otherwise. We also suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

24PW693 (historic refuse scatter north of pump house [HS 88]) Given the work proposed in the riparian zone, associated with the Superfund project, we believe that site 24PW693 should also be given special attention. A 1999 evaluation of this site (Johnson 1999) was made based on materials observed in a ditch excavated by a local rancher. According to the site report, the materials observed include white ware and glass with maker's marks, which are potentially diagnostic and may help in understanding the ranch's history of occupation. The site was originally estimated to be 9.5 by 27 meters in size based on surface artifacts and those exposed in an adjacent eroded area. However, given the poor ground visibility during our survey we could not reliably establish the accuracy of these estimates. Therefore, we recommend that limited testing be performed in this area to delineate the site boundaries, determine the nature of the deposits and their integrity before ground disturbing activities associated with the Superfund project begin in this area. We also suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00006 (historic dump below water at Clark Fork River bridge) From a personal communication with Park Curator Chris Ford, it was understood that all of the cultural materials

visible during a period of exceptionally low water levels in 1982 were collected. Should additional materials be observed, we recommend that a professional archaeologist be contacted and consulted regarding proper procedures for their preservation. We also suggest that a cultural resource specialist should be present to monitor any ground disturbing activities in the area. If additional cultural materials are revealed during ground disturbing activities, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00009 (historic trash dump near the ice house and bunk house within the Grant-Kohrs Ranch complex) No cultural materials were observed in the vicinity of this site. However, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00010 (historic trash dump near the new wing of the Grant-Kohrs Ranch house) No cultural materials were observed in the vicinity of this site. However, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00011 (rectangular depression south of the present-day chicken coops) It is hypothesized that this feature is a privy pit. Privy pits sometimes contain artifacts--often intact--that may not be found elsewhere on a historic property. However, the true nature of this feature cannot be discerned without subsurface testing. Therefore, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for

significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00012 (**24PW799**; historic trash dump; the "Warren dump) This is fairly extensive dump site. Materials observed during the present survey (GRKO-1426) suggest that the dump was used between the 1930s and the 1980s. Some members of Park personnel have expressed the belief that there may be materials in the dump that predate the 1930s. This can only be addressed through archaeological testing, however. Therefore, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00013 (historic foundation feature southwest of the Grant-Kohrs Ranch house) No cultural resources were observed in association with this foundation feature and its date and function could not be established. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00014 (**24PW808**; the Kading Homestead) This site consists of foundation features and depressions with few associated cultural materials. Given the poor visibility during the present survey (GRKO-1426), features and artifacts that were not observed during project

GRKO-1426 may be revealed under better conditions. Therefore, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00015 (**24PW797**; historic trash dump; "hobo camp") This is an extensive dump feature that runs for several hundred meters parallel to the old Chicago, Milwaukee & St. Paul railroad bed. The dates of the materials in the dump range from potentially the turn of the 20th century to very recent times (post-1972). It is not known whether older materials underlie those seen on the surface, and this can only be understood through archaeological testing. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00016 (possibly a historic refuse scatter) As explained in the section of this report entitled Results, the true nature and location of this site could not be discerned with confidence. There is a sparse scatter of historic refuse in the general area of this site as it is indicated on the map provided by the Park's GIS department. Whether this is the site referred to in the Cultural Sites Inventory (Western Archaeological Center 1998) is not known. As a precautionary measure, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act

regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00017 and -00018 (possibly the two sides of a historic siphon) As explained in the section of this report entitled Results, the true nature and location of these sites could not be discerned with confidence. In the general area of these sites as they are indicated on the map provided by the Park's GIS department, there are the east and west accesses of a historic siphon. Whether these are the features referred to in the Cultural Sites Inventory (Western Archaeological Center 1998) is not known. As a precautionary measure, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00019 (**24PW807**; "Con and Ole dump" west of the Warren domestic complex) The materials observed in this dump suggest its use between the 1950s and the 1980s. Whether the site contains deposits that predate the 1950s can only be established through archaeological testing. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-00020 (**24PW806**; historic debris scatter in the western portion of the property) This scatter covers 2725 square meters and may be the result of Conrad Warren II using ceramic and glass items for target practice. Though the scatter covers an extensive area and is presumed not to have subsurface deposits, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant

subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-21 (**24PW805**; historic depression and debris) This site has been interpreted as a mine/mineral testing pit with large gauge historic debris in the general vicinity. The date and true nature of this site is not known and it is uncertain whether archaeological testing would shed additional light on the matter. Nonetheless, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1426-TS1 (**24PW798**; the Stuart Homestead) This site may be eligible for listing in the National Register under Criteria A, B and D. Tom Stuart was a relatively prominent figure in early Deer Lodge history and the Park Service may wish to take steps to record this site in detail and insure the preservation of its historic integrity. Further, we believe that the site's archaeological deposits may also present a unique opportunity to examine material cultural changes over time, as the house was continually occupied from the late 1860s to the mid-20th century. Sudderth (1980a) used archaeological data to report similar observations of change over time while conducting excavations in the Grant-Kohrs Home Ranch building complex. He placed an excavation unit (Unit 7) near the kitchen and basement doors of the new house wing. In this unit he reports a stratified deposit with "…qualitatively and quantitatively different materials in Levels 1 and 2. Level 2 (the lower) contained more evidence of 'luxury' items including wines, liquors, commercially prepared delicacies, condiments and canned food. In contrast, Level 1 contained barbed wire, tool parts, building materials and such other by-products as one would expect in a ranching operation" (Sudderth 1980a). The Stuart Homestead is unique that it might offer a comparative case of culture change in an agricultural operation associated with a distinctly different socio-economic strata than afforded by the Grant-Kohrs

materials. For managerial purposes, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1426-TS2 (**24PW804**; historic trash dump in the western portion of the property) The materials in this dump range in dates of manufacture from approximately the turn of the 20th century to at least the middle of that century. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1426-TS3 (**24PW803**; historic foundation features and debris scatter; the "pig farm") The nature of the features at this site and their dates of construction were not discerned during the present survey (GRKO-1426). The site may offer insights into the use(s) of the property at different times during the past, and we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1426-TS4 (**24PW802**; historic depression and debris) This site has been interpreted as a possible mine/mineral testing pit with historic debris in the general vicinity. The

date and true nature of this site is not known and it is uncertain whether archaeological testing would shed additional light on the matter. Nonetheless, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1426-TS5 (**24PW801**; historic debris scatter along the Clark Fork River) This site may warrant special attention given their location in the riparian zone of the Clark Fork River and the proposed work associated with the Superfund project. This site consists of a scatter of historic debris that is most likely a secondary deposit, transported fluvially from its original context and deposited in a relatively high area at a bend in the river. Though it is not considered likely that the site contains any subsurface deposits, this can only be determined though archaeological testing. The Park may want to consider such testing prior to any ground disturbing activities in the area. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1426-TS6 (**24PW796**; historic foundations and railroad tie alignments) This site is composed of several features, the combined function of which may have contributed to railroad activities during the early part of the 20th century. The Park may wish to conduct limited testing in the area in order to discern whether buried deposits exist and whether those deposits might shed more light on the nature of the site. For general managerial purposes, we recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the

proposed undertaking, we suggest that at a minimum a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1426-TS7 (**24PW800**; historic debris scatter along the Clark Fork River) This site may warrant special attention given their location in the riparian zone of the Clark Fork River and the proposed work associated with the Superfund project. This site consists of a scatter of historic debris that is most likely a secondary deposit, transported fluvially from its original context and deposited in a relatively high area at a bend in the river. Though it is not considered likely that the site contains any subsurface deposits, this can only be determined though archaeological testing. The Park may want to consider such testing prior to any ground disturbing activities in the area. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

GRKO-1416-TS8 (**24PW809**; historic features associated with a gravel mining operation) This site is composed of several features, which in conjunction may have served as an open-pit gravel mining operation to supply materials for railroad grade construction. We recommend that ground disturbing activities in the area of this site be accompanied by an assessment of the potential for significant subsurface deposits. Depending on the nature of the proposed undertaking, we suggest that, in addition to testing, a cultural resource specialist should be present to monitor any ground disturbing activities. If significant subsurface cultural materials are revealed, we suggest that the staff notify and enter into consultation with the Montana SHPO as specified in Section 106 of the National Historic Preservation Act, regarding National Register of Historic Places eligibility and the mitigation of adverse effects.

In addition to the recommendations provided above, given the pending scope of the

Superfund project, we also recommend that the Park consider additional survey in the riparian zone. The survey conditions during project GRKO-1426 were such that very little could be seen on the ground surface in the riparian zone. The Park may wish to consider an additional survey, perhaps during the late winter or early spring when vegetal cover is less dense and visibility may be better. This survey should include the following elements. Variable sediments and thick surface vegetation precludes easy identification of buried archaeological materials through surface survey. While subsurface archaeological testing could be used to find buried materials, adequate testing could be time consuming and expensive. Therefore, it is recommended that an integrated program of remote sensing and subsurface testing be undertaken. Several instruments may be of utility in the riparian context for locating buried historic period artifacts and features. Resistivity and electro-magnetic conductivity techniques are particularly useful for locating buried features and metal artifacts as they are designed to measure the effects of variation in sediments on the flow of currents in the ground. Magnetometer survey could also be useful, but only if looking for contexts affecting variation in the earth's magnetic field such as prehistoric hearth features or burned structures. Ground penetrating radar can be used to produce sedimentary profiles once a site has been identified that has the potential for buried features. Remote sensing investigations need to proceed in tandem with archaeological test excavations. A systematic series of subsurface tests should be excavated to provide information on variation in sediments. This is necessary for proper interpretation of remote sensing data. Minimally, a series of one meter deep excavation units should be excavated throughout the riparian zone to assess sedimentary variation. Next, subsurface testing is critical for examining inferences drawn from remote sensing study. Thus, at least one test unit should be excavated for each major anomaly located during remote sensing. In addition, each identified cultural locality should be tested with a minimum of one 1x1 meter excavation unit in order to better explore relationships between cultural materials and sedimentary stratigraphy. Even if additional survey is performed in the riparian zone, however, it is our recommendation that a cultural monitor be present during all ground disturbing activities associated with the Superfund project or otherwise.