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Two Recent Paleoindian Projectile Point Isolated Find Spots

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Very few sites of Paleoindian age have undergone systematic excavation in the state of Kansas. Much of what we know about this period of Kansas prehistory is reliant on surface materials and the documentation of avocational collections. Documenting Kansas surface materials in the hopes of better understanding the nature of the Paleoindian archaeological record has been in practice for a number of years (Beaver 1998; Brown and Logan 1987; Hofman 1994a, 1994b; Hofman and Hesse 1996; Stein 1984; Yapple 1968) and has been invaluable for allowing archaeologists to describe regional distribution patterns and to formulate improved research questions. The purpose of this short abstract is to report two late Paleoindian projectile point fragments recently found in Trego County, Kansas.

In January of 2000, Delbert Dietrich contacted Martin Stein at the Kansas State Historical Society to

report his finding of two possible Paleoindian projectile point fragments. With the aid of Dr. Jack Hofman (University of Kansas), these points were typologically assigned to late Paleoindian cultural complexes. The associated find spots have been assigned site numbers since the projectile points are diagnostic.

The first specimen (14TO430), found on a gravel bar of the Saline River immediately downstream from an unnamed tributary, is identified as an Allen/Frederick point (Figure 1). This point is a base and blade fragment with probable impact damage associated with the distal break and is made from Niobrara silicified chalk. The second projectile fragment (14TO431) was also recovered from a gravel bar of the Saline River approximately one-half mile downstream from 14TO430. This projectile point fragment is a midsection of an Allen point made from Niobrara silicified chalk (Figure 2). More specific information on these specimens (metrics, break types, etc.)

can be obtained from the Kansas State Historical Society's site files.

The reporting of these two points serves as an example of the benefits of cooperation between professional and avocational archaeologists. With continued efforts to establish and maintain this type of contact, our understanding of the archaeological record of Kansas can only improve.



Figure 2a. Allen Point from 14OT431 – Obverse Side



Figure 1. Allen/Frederick Point From 14TO430



Figure 2b. Allen Point from 14OT431 – Reverse Side

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Ethnobotanical Research in the Central Plains

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Research

For the past several years, I have been working with the Nebraska State Historical Society and the Nebraska State Museum to identify botanical remains recovered from Woodland and Village period sites. Most attention has been directed toward Nebraska phase sites located in the eastern portion of the state. Farming was clearly established by the beginning of the

Nebraska phase, therefore the presence of such common domesticates as corn in the archaeobotanical assemblages was certainly expected. The goals of my research were directed toward an identification of all domesticates, a determination of the relative importance of each domesticate, an evaluation of the economic contribution of wild plant resources, and an establishment of a better description of Village period farming in the Central

Plains. Archaeobotanical assemblages from the following sites have contributed to this study to date: 25SY31 (3 separate lodges), 25CU23, 25BU37, 25NC29, 25BO23 and 25SY45.

For decades, students of Plains archaeology have been told that the triad of corn, beans and squash was an important contribution to the Central Plains tradition subsistence. While these crops were certainly grown by CPT populations, my research indicates that their economic value varied considerably between sites and over time. An examination of archaeobotanical remains from the Nebraska phase sites has demonstrated that the economy consisted of a balance between wild plant food gathering and farming and both were complements to hunting. The use of several different crops is best described as a multicropping farming system that relied on both native and tropical (i.e., introduced) plants. Crops farmed included the native domesticates of marshelder (*Iva annua*), sunflower (*Helianthus annuus*), goosefoot (*Chenopodium berlandieri*), tobacco (*Nicotiana* sp.) and little barley (*Hordeum pusillum*) along with the tropical cultigens of squash (*Cucurbita* sp.), corn (*Zea mays*) and beans (*Phaseolus vulgaris*). The relative percentages of the different crops vary considerably between sites, to the point that, given similar recovery techniques, it is difficult to predict which crops will be present in what quantities. Corn is certainly not always the most abundant, suggesting that the farming strategies of the Nebraska phase people did not focus on this crop to the

exclusion of any other. In fact, it is often hard to describe one crop as being dominant, since several are often represented in near equal quantities. The presence of certain crops at a specific site may be due to the season(s) of occupation or the time of harvest, and may thus influence the relative percent of one species over another. For example, little barley is one of the few native grasses that matures in the spring and its presence within an assemblage is often interpreted as economically important at a time when other resources would have been depleted.

An entrenched multicropping system in the Nebraska phase may have allowed individual households to remain somewhat autonomous, thus eliminating the need for any trade or coordinated work between households. This autonomous multicropping system also appears to be very different from the proto-historic system of agricultural intensification. Ongoing research involving an examination of Great Bend archaeobotanical assemblages suggests that the multicropping system is replaced with a farming practice focused on corn agriculture. Since agricultural patterns are closely related with other aspects of society, this economic shift may have impacted the structured organizational system for labor and scheduling and helped give rise to a more complex society.

AMS Dating and Central Plains Agricultural Developments

Our current understanding of the origins and development of agricultural

systems in the central Plains relies heavily on archaeobotanical data obtained from flotation samples. These data are becoming more numerous as flotation becomes more standard and document the numerous plant species that contributed to the development of this important economic pattern. However, their mere presence in an archaeological context does not always provide enough evidence of their direct age, since radiocarbon dates are often made on non-annual species and may not reflect the actual date of cultigen use. In addition, many sites have few or no associated ¹⁴C dates and others are multi-component. The issue is even more critical when dealing with introduced tropical cultigens such as maize.

As a means of establishing a framework for the introduction and

increased use of domesticates (and help in providing an accurate date of occupation), I received an NSF grant to AMS date 40 cultigens recovered from 11 Central Plains archaeological sites, ranging in age from Late Archaic to Plains Village. The first round of samples were submitted to the Arizona AMS Laboratory and the results were recently faxed from the lab. As luck would have it, the fax arrived moments before my computer decided to crash, making it difficult to access the program to calibrate the dates. And, of course, not all of the dates were included. But the ones provided offer exciting information. I have listed these below (without calibration!) with a short interpretation. A final interpretation will have to wait until all of the dates are in.

<u>Site</u>	<u>Material</u>	<u>AgeBP</u>	<u>AgeAD</u>
23JA159	cultigen marshelder	2535 \pm 45	585 \pm 45 B.C.
23JA159	cultigen marshelder	2530 \pm 40	580 \pm 40 B.C.
14WY1	cultigen marshelder	1660 \pm 45	290 \pm 45
14JN332	cultigen marshelder	985 \pm 40	965 \pm 40
14JN332	cultigen marshelder	1200 \pm 40	750 \pm 40
14JN332	maize	1165 \pm 40	785 \pm 40
14JN332	maize	1220 \pm 40	730 \pm 40
25DO12	maize	1050 \pm 40	900 \pm 40
25DO12	maize	1040 \pm 40	910 \pm 40
14BU55	sunflower	940 \pm 50	1010 \pm 50
14BU55	maize	920 \pm 60	1030 \pm 60
25SY31	maize	785 \pm 40	1165 \pm 40
25SY31	bean	810 \pm 45	1140 \pm 45
25SY31	bean	780 \pm 40	1170 \pm 40
25SY31	bean	820 \pm 50	1130 \pm 50
14SC1	melon	350 \pm 35	1600 \pm 35
14LT304	maize	220 \pm 40	1730 \pm 40
14LT304	cucurbit	180 \pm 40	1770 \pm 40
14LT304	maize	296 \pm 40	1655 \pm 40

The remaining samples are maize from Middle Woodland Kansas City Hopewell sites, maize from Plains Woodland sites, cucurbit rind from Late Archaic contexts, and additional melons from Scott County pueblo. So far, the dates document the presence of cultigen marshelder during the Early Woodland period in Jackson county, Missouri and its continued use through the Middle Woodland and Plains Woodland periods. This further indicates that use of a native cultigen preceded the appearance of maize. It is unclear at this time whether cucurbits were grown prior to the Early Woodland period. The dates from the Grasshopper Falls phase Avoca site (14JN332) suggest that the farming of both native and tropical crops was part of the Plains Woodland economy, a trend that continues with the data from the Loseke Creek phase site (25DO12) and the Bemis Creek phase site (14BU55). This trend may very likely indicate that the multi-cropping system of the Plains Village period had its origins in the

earlier Woodland times. The common bean is the latest tropical cultigen to appear on the Plains, and the dates from the Patterson site (25SY31) suggest this occurred in the early part of the 12th century. The 17th century melons from the Scott County pueblo site (14SC1) likely represent the introduction of this crop onto the Plains from the Southwestern pueblos. Melons were introduced into the Southwest by the Spanish in the 1500s.

Some of the dates, such as those from the Patterson site, are later than what was expected. The Cuesta phase dates from 14LT304 however, are significantly different than what was anticipated. At this time, I cannot offer any explanation for the apparent historic occupation at this site.

Stay tuned for the additional dates and better interpretation.

Archaeological Survey of Webster Reservoir (Rooks County) and Kirwin Reservoir (Phillips County), Kansas, 1999

Brad Logan

University of Kansas, Museum of Anthropology

As part of a continuing cooperative agreement between the University of Kansas and the Bureau of Reclamation (Great Plains Region, Grand Island Office), the Museum of

Anthropology conducted systematic surveys at Webster and Kirwin Reservoirs, northwestern Kansas, from May 24 to August 10, 1999. Approximately 3000 acres (of 3,164) at

the former reservoir were surveyed; about 2000 acres (of 6,200) at Kirwin were covered.

Terrain was traversed by a team of four to six persons in linear transects 20-25m apart; in areas of dense vegetation, shovel tests were dug at 20m intervals along those transects. Brad Logan served as Principal Investigator and Georges Pearson (KU Ph.D. student) was Field Director. The survey team included Ginny Hatfield and Janice McLean (KU M.A. graduate students), Chad Maley, Scott Bossell, and Carmen Costner (KU undergraduates), and Kirk Smith (Kansas State University undergraduate). This team survived a few bee stings, some of the most extensive and insidious patches of poison ivy on the planet, occasionally impenetrable thickets of plum and sumac, tracts of nettles and 8-foot tall ragweed, triple digit temperatures, and other unpleasantries.

As the results of the survey are still being compiled, site forms completed, and a project report prepared, the following information is tentative. For example, final site counts must await decisions to combine or split temporary field designations. Of the latter, thirty-one were assigned to prehistoric sites and nine to historic sites at Webster, on the South Fork Solomon River. None had been previously recorded. Nearly two-thirds of the prehistoric sites yielded less than a half-dozen pieces of lithic debitage, nearly always of Niobrara jasper. Only two sites, both in upland settings,

revealed ceramic artifacts. One of these appears to be a Dismal River campsite; it also yielded two arrowpoints, a drill fragment, and about three dozen pieces of debitage. The other site yielded a single, small sherd, mussel shell, bone, a core, a blade scraper, biface fragment, and several flakes. Another site that warrants further investigation consisted of a few flakes in association with a buried feature that consisted of a concentration of mussel shells. The feature had been exposed by wave erosion on the southern side of the reservoir.

One of the most interesting patterns in site distribution at Webster is the location of several sites, including both isolated flakes and more extensive lithic scatters, on upland ridges. A similar pattern was found during a survey by KUMA in 1998 at Norton Reservoir, which is on Prairie Dog Creek in Norton County just northwest of Webster. These sites appear to reflect short term, warm weather occupation by mobile groups that took advantage of locally available outcrops of Niobrara jasper. One difference between the reservoirs, however, is that no primary or secondary outcrops of this material were encountered in the project area at Webster, whereas several were found near sites at Norton. At Webster, abandoned channels of the South Fork Solomon River, floodplains, and some terraces contained scattered gravels of jasper, but sources of larger, more workable material are either inundated by the lake or located beyond the reservoir area.

Initial survey at Kirwin Reservoir, on the North Fork Solomon River northeast of Webster, resulted in the discovery of three previously unrecorded prehistoric sites and the resurvey of 14PH7, which had been recorded by the Smithsonian Institution River Basin Survey. The West Island site (14PH3) was surveyed, though at the time lake level prevented inspection of those parts of the site that had yielded Woodland artifacts and human remains during an earlier survey by archaeologists from the Kansas State Historical Society.

Plans are being made for a return to the project area in summer 2000 to complete the survey of two small tracts (ca. 160 acres) at Webster

Reservoir and ca. 4200 acres of land at Kirwin Reservoir.

Readers are referred to the online version of the 1999 Flint Hills Conference paper by Logan and Georges Pearson for an update to the project:

<http://www.ukans.edu/~oar/index.htm>

Readers can also access the site through a link on the Museum of Anthropology's website (Archaeology page):

www.ukans.edu/~kuma/ArchMain.html

The latter page also contains an online version of a popular account of KUMA's investigation of the DB site, a multicomponent upland occupation overlooking the Missouri River Valley at Fort Leavenworth.

Source Area Analysis of Obsidian from Early Ceramic Period Context near Manhattan

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Obsidian has long been recognized as one of the exotic raw materials that circulated in what is commonly called the Hopewell Interaction Sphere. Beginning in the 1960s, obsidian from the classic Hopewell sites of Ohio, Illinois, and the Great Lakes area was subjected to neutron activation analysis designed to determine the source area. Obsidian Cliff, in Yellowstone National Park,

Wyoming, was shown to be the most important source of obsidian in Hopewell context (Griffin, et al. 1969). Further research has shown the occasional use of several other sources, but all are in or near Yellowstone (Hatch, et al. 1990, Hughes 1992).

It has been known since Waldo Wedel worked in the Kansas City area in the late 1930s that Hopewellian sites are to be found there (Wedel 1943). The

material culture complex represented by these sites is generally called Kansas City Hopewell. Kansas City Hopewell sites yield pottery and chipped stone tools that are highly reminiscent of materials from the Illinois Hopewell sites. Settlement patterns and mortuary customs also have marked resemblances to the Illinois counterpart. The major concentration of Kansas City Hopewell sites is in the Missouri River valley and drainage in the Kansas City area, but sites with stylistically similar material do extend west into the Kansas River valley as far as the Manhattan area. Exotic raw materials are not common on Kansas City Hopewell sites in Missouri and Kansas but neither are they absent.

Obsidian has occasionally been recovered from Kansas City Hopewell sites. Generalizing from the source area studies to the east, the normal supposition is that the obsidian from Kansas City Hopewell context was obtained from the Obsidian Cliff source. This supposition was borne out in the only analysis of Kansas City Hopewell obsidian conducted prior to the one reported here—a flake from the Trowbridge site (14WY1) was determined to indeed have derived from Obsidian Cliff (Hughes 1995).

The Kansas State University collections contains several obsidian flakes from Kansas City Hopewell context in the Manhattan area. Two of these flakes were recently submitted for source analysis. One was from 14RY601 and was recovered during testing Pat O'Brien conducted with a field class in

1975. It is mentioned in the report of the nearby 14RY603 (O'Brien et al. 1979:3). The second flake is from 14RY603 and was recovered during an intensive surface collection exercise I conducted with a class in 1994. The two sites are adjacent to one another in the Kansas River bottoms, near where McDowell Creek empties into the river near Ashland Bottoms. The 14RY601 flake is from the plowzone and the 14RY603 flake is from the surface, but the association with the Kansas City Hopewell context is strong. Neither site is known to have more than the one component, except for a scatter of Euroamerican material which hardly is likely to have included obsidian. We therefore have a high degree of confidence in the cultural context of this material.

I recently submitted these flakes to Richard Hughes at Geochemical Research Laboratory in Portola Valley, California. Hughes analyzed them flakes by x-ray fluorescence (xrf) using procedures described in Hughes and Roper (1999). The xrf data indicated that the source of the 14RY601 flake was Obsidian Cliff, Wyoming, and that the source of the 14RY603 material was Malad, Idaho (Hughes 2000). Malad is in southern Idaho, about 160 miles southwest of Obsidian Cliff. Obsidian from this source has not been previously reported from Hopewell context.

It is too early to know what to make of this result. Replication with another flake or flakes is the best thing and every effort is being made to do just

that. The KSU archaeology collections catalog indicates that two obsidian flakes were found at 14RY609, a site just south of 14RY601 and 14RY603, but attempts to find these flakes in the collection have been unsuccessful so far. Lauren Ritterbush, Catlan Standlee, and I intensively walked 14RY603 under excellent surface conditions in mid-March 2000 hoping to find some more obsidian there. Although abundant debitage was exposed on the surface, no obsidian was observed. Any newly-found pieces of obsidian—be they in existing collections or recovered during newly fieldwork, and assuming we can have confidence in their association—will be submitted for source analysis in an effort to clarify the picture.

It may be pertinent to observe, however, that the so-called Hopewell or Hopewellian occupation in the Manhattan area almost certainly post-dates by several centuries the demise of the Hopewell Interaction Sphere. In this sense, the local Hopewell is not Hopewell at all but rather an Early Ceramic or Plains Woodland culture that incorporates certain stylistic elements of a by-gone era in the east. Hawley and Hughes (1999) have reported another Early Ceramic period obsidian flake from the Malad source—this one from the Infinity site in Griffin, James B., Adan A. Gordus, and Gary A. Wright
1969 Identification of the Sources of Hopewellian Obsidian in the Middle West. *American Antiquity* 34(1):1-14.

Montgomery County. Infinity was a stratified multicomponent site with both Cuesta and Pomona phase occupations. A Early Ceramic period Cuesta phase association seemed most likely for the Infinity site flake, but Hawley and Hughes questioned that association after the xrf analysis showed the flake to be from the Malad source. Perhaps, though, the determination that the 14RY603 flake also came from the Malad source provides some reassurance that an obsidian flake from Early Ceramic period context that is from something other than Obsidian Cliff or at least a Yellowstone-area source need not be automatically suspect.

It would be easy to overintepret these results and it also is easy to say that research must continue. It must, but obsidian is rare in Early Ceramic period sites in eastern Kansas and, except for the two not-yet-located specimens in the KSU collection, all known obsidian flakes from this context have been source-analyzed. Analysis of any newly-found specimens will assist in more fully understanding the nature of Early Ceramic societies in this area.

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Research at Wichita State University

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At Wichita State University, several older research projects are nearing completion and others are continuing. The report on the work at Waconda Lake led by Dr. Donald Blakeslee has just been published by *Central Plains Archeology*. The volume is free to members of the Nebraska Association of Professional Archaeologists. The 175 page monograph is based on a complete re-analysis of the collections from Waconda Lake that were made by the University of Nebraska during the 1960s.

Another completed project that should be of considerable interest to members of PAK is the master's thesis written by Ron Dorsey. Dorsey has broken new ground in the analysis of freshwater mussel shells, and his work using the mussels from Waconda Lake allowed him not only to estimate the contribution to the diet of mussels and to reconstruct their habitat but also to derive estimates for how long some sites were occupied. He now has a paper in press in *Central Plains Archaeology* that also determines seasonality from mussel shell.

An archaeology seminar has been analyzing the materials excavated by the KATP at a site in Norton County. This is the westernmost habitation site of the Central Plains Tradition ever

excavated in Kansas, and the results of the analysis should be interesting. In many ways, the assemblage from the site is proving to be typical of Central Plains Tradition sites, and the house at the site is similar to some from Waconda Lake. The better student papers will be offered to *The Kansas Anthropologist* for publication.

Fieldwork this summer is going to be varied. David Hughes will lead a field school in June that will take place in the Cimarron Grassland of southwestern Kansas. Both historic and prehistoric sites will be investigated. The historic work will focus on gathering data for a National Register nomination for the first ASCS field station in the U.S. The prehistoric work will center on a bison butchering station of the Panhandle Aspect. The site had been impacted by well drilling, and Hughes' analysis of the remains recovered from it indicate that two other sites should be nearby: the kill site and a hunting camp. Survey of the area, however, will not be restricted to just these sites.

In July, Don Blakeslee will lead a field school at Red Willow Reservoir, just north of McCook, Nebraska. Work at the reservoir last summer was very productive, yielding sites that ranged in age from Archaic through Historic. Since fossil bone was found on one

beach and since deposits of the right age are exposed in the upper parts of the reservoir, it is expected that PaleoIndian sites will also be found. Work this summer will concentrate on finishing the shoreline portion of the survey because last summer's work showed that many sites are eroding into the lake. Testing of selected sites will also take place. Last summer's collections are almost completely processed in the lab, and examination of them shows that the Middle Ceramic people who lived on Red Willow Creek differed in interesting ways from the Upper Republican populations at Medicine Creek, a short distance to the east.

In late July and the first week of August, Blakeslee will lead a volunteer test excavation in Yellowstone National Park. The site is of Middle Woodland age and is located on the shore of Yellowstone Lake. Several roasting pits have eroded into the lake in recent years, and the tests will try to determine the nature of the occupation from which they derive.

In both late May and again in early September, Blakeslee will return to the Jimmy Owens site, a camp of the Coronado expedition in Floyd County, Texas. The May trip will concentrate on the route by which Coronado may have approached the site. It appears as though he may have used a trail that continued in use into the historic period that is visible at several spots along the eastern edge of the Llano Estacado. In September, excavations at the Jimmy Owens site will resume in an area that has revealed a section of the Spanish camp, quite possibly the portion occupied by the crossbowmen. Work will also continue on preparing for use of remote sensing equipment across the whole length of the site in order to determine the overall layout of the camp.

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Analyzing Western Oneota Migration

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Archaeological components at the White Rock, Warne, Intermill, Glen Elder, Blue Stone, Green Plum, and Meek sites in north-central Kansas and

southern Nebraska have been assigned to the White Rock phase. The assemblages from these sites are clearly Oneota in nature and have been

interpreted as representing a migrant Oneota population in the Central Plains (Logan 1998; Ritterbush and Logan 2000). This migration(s) appears to have occurred during the fourteenth century AD (Logan 1995, 1998). Various questions are raised through the interpretation of Oneota migration into the Plains. These include the effects of Oneota migration on the “mother” and displaced or contact populations, adjustments made by the migrants, the factors influencing the movement, and others.

My present research is a comparative analysis of White Rock phase assemblages and a Western Oneota assemblage with the goal of furthering our understanding of the relationship between the associated Oneota populations and the process of migration “as a permanent or semipermanent change of residence” (Lee 1966:49). Migration theory, as developed through studies in other social sciences, such as geography, sociology, and demography (e.g., Lee 1966; Lewis 1982), will guide this research. Because migration is a process involving movement from a point of origin to a destination, my research focuses not only on White Rock phase assemblages from the Central Plains, but also on an assemblage from a possible point of origin.

Logan (1995, 1998) has suggested that the Leary site in extreme southeastern Nebraska is a plausible point of origin for the Central Plains Oneota migrants. Previous research at this site has revealed its Oneota affiliation (Hill and Wedel 1936) and

contemporaneity with the White Rock phase (Boszhardt *et al.* 1995; Logan and Banks 1994:70-72; Logan 1995:99-101, 1998). The Leary site is also in close proximity to the Central Plains and there are no obvious natural barriers between it and the White Rock area. (Other Oneota sites located comparable distances from the White Rock area, for example, the Ashland, Doniphan, Fanning, and King Hill sites, are clearly later occupations that could not have served as points of origin for fourteenth century Oneota migrants [Henning 1970; Hill and Cooper 1937; Raish 1979; Shippee 1967; Wedel 1959].) That a single site would serve as the point of origin of a migrant group can be supported by the observation that “a migration stream often flows from a highly restricted point of origin” (Anthony 1990:903). This is due largely to the communication of information regarding a potential destination through kin links.

Comparative analysis of White Rock phase and Leary site assemblages will focus on two primary sets of data. These are ceramic styles and lithic raw materials. The initial ceramic studies will use Oneota horizon styles, as developed through analysis of La Crosse terrace Oneota assemblages (Boszhardt 1994, 1998), to test the hypothesis that the Leary site was occupied at several different times during the Late Prehistoric period and to sort features and their contents according to relative age. (Relative ages will be compared to ages derived from radiocarbon/AMS assays as funding becomes available.) The ceramics will then be compared to those from White

Rock assemblages from the Central Plains in order to identify similarities representative of possible relations and variability potentially reflecting regional adjustments of a migrant population.

Lithic raw material studies will be used to identify mobility patterns of these westernmost Oneota peoples. Previous analysis of lithic artifacts in the original White Rock site assemblage revealed the Oneota migrants' dependence on Central Plains materials (Ritterbush 1999; Ritterbush and Logan 2000). Local or near-local lithic materials were heavily utilized (70% Niobrara jasper, 21% Flint Hills cherts) indicating a clear adaptation to the local plains environment. Access to eastern lithic sources, possibly through a related Oneota population, appears to have been limited given the minor percentage (2%) of eastern lithic materials in the White Rock assemblage. Identification and tabulation of the percentages of lithic raw materials represented in other White Rock assemblages and the Leary site assemblage will be undertaken to provide a basis for studying mobility patterns and possible cultural relations.

The results of these analyses will be integrated with broader studies of the Oneota tradition in order to provide a better understanding of the possible social and environmental factors that affected Oneota migration. The expansion of Oneota peoples into the Central Plains during the fourteenth century is not unique. Oneota expansion occurred elsewhere with other documented cases during the Late

Prehistoric period (e.g., Esarey and Conrad 1998; Gibbon 1995; Nolan and Conrad 1998). Archaeological study of White Rock - Western Oneota relationships within the context of migration theory introduces a new perspective on the context and process(es) of change that affected Late Prehistoric Oneota peoples and the Central Plains region and its occupants.

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Source Analysis of Obsidian from the Warne and Blood Run Sites

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A sample of obsidian artifacts from two western Oneota sites has been subjected to x-ray fluorescence (xrf) analysis in order to determine their volcanic sources. The sample consists of five flakes from the Warne site (14JW8 and 14JW24) at Lovewell Reservoir, northcentral Kansas, and two flakes from the Blood Run site, northwestern Iowa. Source analysis by Richard Hughes, Geochemical Research Laboratory, indicates four of the flakes from Warne compare favorably to the Malad source, southeastern Idaho and the fifth compares to the Obsidian Ridge source, northcentral New Mexico. The two flakes from Blood Run (13LO2), obtained by Dale Henning, Illinois State Museum, are from the Obsidian Cliff source in Yellowstone, northwestern Wyoming.

These findings reflect the mobility of the White Rock phase groups who occupied Warne, one aspect of their bison-focused hunting pattern, and their contact/trade with groups of the High Plains. The difference between the sources of obsidian from the two western Oneota sites may also reflect chronological differences between their occupations. Blood Run

was occupied during the protohistoric and historic periods; Warne was occupied during the Late Prehistoric period. The Obsidian Cliff origin of flakes from Blood Run may also indicate the maintenance of relations with Northern Plains groups over a long period since obsidian from that source accounts for the great majority of such artifacts from earlier (Woodland) sites in Iowa. The single flake of New Mexico (Jemez Mountains) obsidian from the Warne site may be of chronological value since it has been suggested that southwestern sources of this volcanic material become dominant in the Southern and Central Plains after A.D. 1450.

In more recent results, a flake (biface fragment) from a pit feature excavated at Blood Run in 1985 was sourced to Bear Gulch, Idaho. This feature yielded charcoal that has been radiocarbon dated to the 17th century. The avocational collector who obtained the previously sourced two flakes from that site consented to analysis of other flakes in his possession and three of four available flakes (a fourth was too small for analysis) were sourced to Obsidian Cliff. Thus, of a total of six

sourced flakes from Blood Run, five are from Obsidian Cliff and one is from Bear Gulch. These findings do not change the interpretation of the previous data from the site. The Bear Gulch source is only about 70 miles southwest of Obsidian Cliff and it accounts for 6 of the 31 specimens from Iowa described by Anderson et al. (1986; see also Hughes and Nelson 1987). The Obsidian Cliff source accounted for 23 of these artifacts. The ratio of Bear Gulch to Obsidian Cliff artifacts from Blood Run (16.7%) is nearly the same as that for such artifacts from sites of various ages throughout Iowa (19.3%), suggesting its Oneota inhabitants were maintaining trade relations with Northern Plains groups that had been established at least as early as Middle Woodland times.

All these results are described in an article accepted for publication in *Plains Anthropologist* (Logan et al. 2001). We hope to add to them in the near future by locating and sourcing an obsidian flake from the Blue Stone site, Harlan County Lake, southcentral Nebraska. That artifact, described by Mary Rusco (1960) in her MA thesis, is

the only other reported obsidian find from a White Rock phase site.

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Evaluating Current SHPO Survey Requirements in the State of Kansas

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The portion of the Central Plains that composes the State of Kansas does not consist of a homogenous landscape.

From west to east, and north to south, a range of physiographic provinces are represented. Physiographic and

environmental variability are two of the many factors that have shaped the archaeological record that we observe and interpret. This variability in the location of resources (e.g., water sources, game, sheltered locations, areas conducive to gardening, etc.) influenced how human groups moved across the landscape as well as how they structured their subsistence and settlement behaviors within local geographic areas. This has implications for the State of Kansas Historic Preservation Office (hereafter referred to as SHPO) who is responsible for not only recommending that archaeological surveys be carried out, but also for the form those surveys will take. In order to evaluate if federally funded or permitted undertakings will affect archaeological sites, the SHPO must have an understanding of the archaeological record for specific physiographic provinces and structure survey requirements accordingly.

The SHPO office has begun a project to evaluate its survey requirements with respect to the different physiographic provinces in the state. Currently, the SHPO requires that all areas of high and moderate archaeological potential undergo 100 percent survey, while low-potential areas receive a 10–20 percent survey. In order to make surveys more effective, and increase the SHPO's ability to preserve the state's archaeological resources, the definitions of what constitutes an area of high, moderate, or low archaeological potential need to be evaluated and possibly modified for the different landscape types present in the state.

This evaluation has started with the High Plains of western Kansas. Site location data, with reference to topographic setting (floodplain, slope, upland) and proximity to water, along with site type and temporal data (if known) are being compiled by county. It is assumed that the sites listed in our files are representative of the archaeological record since these files are a result of academic research projects, Kansas State Historical Society survey and research, CRM work, and information from avocational archaeologists and private landowners. When these site data are described, they will be used to evaluate if the current definitions of high, moderate, and low archaeological potential for the High Plains need to be modified. Other physiographic provinces, such as the Flint Hills or the Osage Cuestas, will be analyzed until the entire state has been evaluated.

It is hoped that these conclusions can be paired with geomorphic and buried soil data from Rolfe Mandel's current work to further refine our definitions of high, moderate, and low archaeological potential. This type of study will enable the SHPO to improve the coverage of surveys resulting from federal review and compliance, and in turn help study and preserve the archaeological record. It is also likely that this study will identify areas in the state where the archaeological record is poorly documented and more intensive survey is needed.

Acknowledgments: I would like to thank Martin Stein for his advice during the

planning of this research project and for providing comments to a draft of this abstract.

Historical Archeology Projects Recently Conducted by the Kansas State Historical Society

*Marsha K. King
Kansas State Historical Society*

Investigations at 1116 SE Madison (14SH370) in Topeka, Shawnee County, Kansas

During the early fall of 1997 the Kansas State Historical Society (KSHS) conducted limited archeological investigations at 1116 SE Madison (14SH370) in Topeka, Shawnee County, Kansas. The Shawnee County Historical Society (SCHS) contracted with the Archeology Office, KSHS, to conduct limited archeological investigations at this property, which they had identified as the John and Mary Ritchie House, in order to gain information concerning the construction of the house and modifications of the house yard, and to possibly locate buried subsurface yard features such as privies and trash deposits.

Society archeologist Marsha K. King met with Shawnee County Historical Society treasurer and Washburn history professor Dr. Bill Wagnon in June and July of 1997 to discuss the history of the Ritchie family, their association with this residence, and SCHS plans to develop and interpret the site.

Archeological investigations at the site were undertaken by the KSHS Archeology Office under a contract with the SCHS. The fieldwork was undertaken at the site between September 22 and October 7, 1997 by staff archeologist Marsha King and staff engineering technicians Susan Butler and Scott Kuhn. Assistance was received from various volunteers from the KSHS, SCHS, Kansas Anthropological Association (KAA), and students and professors from Washburn University and the University of Kansas.

In brief, results of the investigations at the house contributed some new information about the construction of the stone house and the landscaping and use of the surrounding yard. This included details about the masonry construction of the stone house foundation walls and associated builder's trench, and documentation of two shallow limestone retaining walls. Additions and later renovations to the house were noted during the excavations in the modifications made to the two eastern cellar windows, the stucco covering the limestone and brick-veneered walls, and a possible south

addition evidenced by a single post mold. A previously unidentified brick cistern (F#5) was located behind the northeast corner of the residence. Differential use of the yard areas was evidenced through the density and types of features identified and artifacts recovered and indicated that the side and back yards were intensively utilized. Archeological evidence was recovered for two back yard activities, drying clothes, evidenced by the presence of two concrete and steel clothesline bases, and disposing of trash in a trash pit.

Artifacts provided evidence of occupation of the house from the mid-nineteenth through late-twentieth century. Unfortunately, extensive testing in yard surrounding the stone house provided no clear evidence of buried features or artifact deposits directly relating to the mid-1850s to mid-1860s, the period of the expected Ritchie family occupation. Some deposits did appear to date from the following decade of the 1860s-1870s. A few diagnostic artifacts potentially dating to this period were recovered. The majority of the artifact assemblage cataloged from the site consisted of late-nineteenth through late-twentieth century materials.

It is recommended that additional archeological investigations be conducted at 1116 SE Madison after the proposed removal of the front/west porch, rear/east addition(s), and the concrete floor in the basement. It is possible that investigations beneath the current front porch could locate footings to an earlier front porch and help to

determine its dimensions and construction. Examination of the area under the rear addition could identify structural remains of an earlier rear porch and recover artifacts swept out the house door. Depending upon how the basement floor was prepared prior to pouring the current concrete floor, it is possible that excavation in the basement could locate remnants of an earlier dirt floor, possibly with embedded artifacts and/or a brick hearth or stove base. Excavation of the brick cistern (F#5) is recommended after removal of the concrete block stairway addition at the rear of the house, in order to determine when this feature was built, filled, and used. Additional fieldwork is needed in the area between 1116 SE Madison and the Hale Ritchie House (1118 SE Madison) to the south to determine whether buried structural remains of a shed or porch associated with the south door, as shown in Bodwell's 1860 sketch plan, are present. Historical archeological investigations are also recommended prior to any construction activities on the two lots adjacent to 1116 SE Madison recently acquired by SCHS, the properties at 1110 and 1118 SE Madison since these lots would have originally been part of the larger yard surrounding the stone residence and may contain subsurface remains of privies, trash deposits, outbuildings, etc. Another location where archeological investigations might contribute information virtually missing from the historical record is the nearby site of Ritchie's limestone quarry and lime kiln operations situated north of 12th Street on the west side of the railroad right-of-way.

The report on this project, *Results of Archeological Investigations at 1116 SE Madison (14SH370), Topeka, Shawnee County, Kansas*, was completed by Marsha King in August 1998.

Investigations at the Wea Mission Site (14MM322), Miami County, Kansas

In accordance with the goals and procedures of the Cooperative Agreement for Highway Archeological Salvage Program, the Society completed a Phase II archeological field survey investigation of the Baptiste Road Extension project, number 61 C-3431-01. This work was authorized by the Kansas Department of Transportation (KDOT) verbally first and later in writing on October 14, 1997. The investigation was initiated by earlier correspondence between the Society and KDOT relating to the potential impact of the project on cultural resources. A Phase I review was requested by KDOT on August 13, 1997. The Society subsequently submitted a Phase I report, dated August 22, 1997, in which it was recommended that a Phase II archeological investigation be performed, including both archival research and field survey of the project area.

The recommended Phase II archeological fieldwork was carried out October 13-17, 1997, by Society staff archeologists Marsha K. King, Chris Schoen, and Fred Scott, with a number of volunteers assisting. Work at the

site was coordinated through Helen Gilliland of the Miami County Genealogy Society and Paola Mayor Floyd J. Grimes. The purpose of the investigations was to locate and examine archeological remains of the buildings and features associated with the Wea Presbyterian Mission/Osage River Subagency/Wea and Piankeshaw Baptist Mission (14MM322) which were located within the project area in the SE 1/4 of Section 15, Township 17 South, Range 23 East a short distance east of U.S. Highway 169. The background and field investigations were designed to collect the data needed to determine the archeological significance of the site and the effects of the proposed road project on those resources.

A meeting was held at the Kansas State Historical Society on November 5, 1997, between the State Historic Preservation Officer (SHPO), SHPO Archeologist, Paola City Manager Kise Randall, a representative of George Butler Associates (GBA), and KDOT representatives. As a direct result of this meeting it was determined that site boundaries needed to be better defined and mapped. Timing of this additional fieldwork was coordinated with Gary Summers of GBA. Limited additional testing was conducted on December 15, 1997, by Marsha King and local volunteer John Romine in order to better define the boundaries of the site area. The following day GBA surveyors mapped in the excavation units and site boundaries, tying them to their previously established project map.

The 1997 Phase II archeological investigations in the Baptiste Road Extension project area (C-3431-01) encountered evidence of the mid-nineteenth century occupations of the Wea Mission Site (14MM322) by the Wea Presbyterian Mission (1834-1837), the Osage River Subagency (1837-1844), and the Wea and Piankeshaw Baptist Mission (1844-1857). Evidence was also found of the later nineteenth century and early twentieth century ownership and/or occupations of the site by Reverend David Lykins (1858-1854/1865), Baptiste and Mary A. Peoria (1854/1865-1865), and the McGrath family (1865-early 1900s). It appears that at least one lessee, a Mr. John Day, occupied the site before the two-story frame house burned in 1909.

Occupation and activities at this site during the late-nineteenth through early-twentieth centuries and later agricultural exploitation of the surrounding fields has tended to obscure remains of the earlier mission and subagency occupations at the site. Little above ground evidence of the mission occupations remains, however subsurface archeological deposits are present at 14MM322. Four features potentially relating to the mission occupations were identified during testing, the location of the Mission House (F#1), stone foundations of the Spring House (F#2), a depression associated with a probable outbuilding (F#3), and a probable filled well (F#4). While no obvious foundations were identified in the expected location of the Baptist Mission House, a concentration of limestone rubble and an associated subsurface deposit consisting of a dense

scatter of mid- to late-nineteenth century artifacts were identified as the location of this building (F#1). Limestone rubble encountered in two excavation units provided evidence for the locations of the southeast and southwest walls of this structure. An alignment of stones in the unit along the southeast wall appeared to be the footing of a chimney base. Remnants of the Spring House (F#2), probably the structure built by the Presbyterian missionaries in 1834, is visible in the bank of the stream as a rectangular stone structure. Excavations revealed the presence of a stone slab floor inside the structure and a builder's trench on the exterior. The third feature, a shallow depression (F#3) situated a short distance southwest of the Mission House (F#1), was tentatively identified as the remains of an outbuilding although no structural remains were noted during excavation. No testing was conducted immediately adjacent to the probable filled stone-lined well which was located between two shovel tests on the southwest transect. No archeological evidence of the mission cemetery noted on several maps and deeds was found, nor were any human remains recovered during the fieldwork.

The Wea Mission Site (14MM322) was determined to be eligible for inclusion on the National Register of Historic Places under criteria A and D (36 CFR 800). This site was closely associated with the U.S. government's Indian removal and reservation policies and the missionary movement. This was one of a relatively small number of Indian missions established during the early to mid-

nineteenth century in what later became the eastern portion of the state of Kansas. Mission-related features and associated buried subsurface deposits are present at the site. Site boundaries were determined on the basis of a sharp decline in artifact density and the presence of disturbed soils or plow zones as noted through the excavation of 18 shovel tests in five transects radiating outward from the F#1 concentration.

The Baptiste Road Extension project was determined to have an adverse effect on the Wea Mission Site by opening this area to development (36 CFR 800.9b). Mitigation or preservation were alternatives considered as acceptable methods for avoiding an adverse impact on this cultural property. The City of Paola, recognizing “the importance of preserving our historical heritage,” chose preservation and acquired ownership of the parcel containing the site. Project plans were modified and the roadway moved to avoid direct impacts to the site, which will become a park area and be protected from future development.

The report on this project, *Results of Phase II Archeological Investigations at the Wea Presbyterian Mission, Osage River Subagency, and Wea and Piankeshaw Baptist Mission (14MM322), Miami County, Kansas*, was completed by Marsha King in February 1999.

Archeological Search for the Original Flagpole, Fort Hays State Historic Site (14EL301), Hays, Kansas

Archeological investigations were recently completed on the parade ground at Fort Hays State Historic Site (14EL301) as part of a continuing effort to identify the location and remains of the post’s original flagpole. The investigation, which was initiated in advance of proposed construction of a replica of the original flagpole, was recommended by the Historic Sites Archeologist. Initial testing had been conducted at the site by Society staff archeologist Martin Stein and Cottonwood Ranch site curator Don Rowilson in 1996 and 1997. Based on the results of this testing, excavations were carried out by Society staff archeologist Marsha K. King between September 18 and October 1, 1998. This report includes a summary of the preliminary testing and the report of the subsequent excavations on the Fort Hays parade ground.

The archeological investigations undertaken near the center of the Fort Hays (14EL301) parade ground succeeded in identifying the location of the 1867 flagpole and evidence of the method of original construction and later removal of this flagpole. While no intact vertical section of the fort’s original flagpole was found during excavation of F#981, significant buried structural remains of the flagstaff’s subterranean support system were documented. The structural remains included intact planking, a 4 ft-5-in long, badly deteriorated splintered

section of the flagpole, and other wood elements probably used as bracing in the construction. All of the wood used in the flagpole construction was white oak, which is not native to the vicinity of the fort. Distinct differences between the feature fill and the surrounding subsoil indicated that the upper portion of the flagpole hole was excavated as a shallow basin, probably using an animal-drawn slip. The lower portions of the feature, consisting of a central hole and four trenches extending to a maximum depth of 11 ft-3 in, were most likely excavated using hand tools. The flagpole erected in the center of the Fort Hays parade ground in the summer of 1867 was built with a strong subterranean support system consisting of thick wood planks laid in four trenches with the flagstaff extending between the anchoring wood planks and resting in a shallow depression in the subsoil below. While no intact evidence of wood elements connecting the planks and pole were noted during excavation, it appears likely, based on the dimensions of other wood pieces recovered and the examples from other military posts, that angled bracing and a box frame were probably used to securely attach the anchoring planks to the flagstaff.

When the 1867 flagpole was moved to the north end of the parade ground, sometime prior to 1873, it appears that the soldiers excavated along the southeasterly side of the old pole. Almost all of the original pole was removed, although a nearly 4.5-ft long wood splinter remaining in the feature fill was interpreted as being a deteriorated or damaged piece of the

original flagpole that was left behind. During removal of the old flagpole, some of the heavy wood planks anchoring the base, angled bracing, and box frame connecting the planks to the pole, were damaged and/or removed. No nails, spikes, pegs, or holes for these, that might have been used to connect the various elements together were left behind. When the resulting hole in the parade ground was filled, many fragments of wood were left behind.

Significant portions of the underground support system for the flagpole were left intact below 250 cm (98.5 in or 8 ft-2.5 in) bd. The remaining portion of the feature is expected to include two backfilled trenches ("North" and "East" trenches), possibly containing remnants of heavy wood planks similar to those in the south half of this feature. It is recommended that if and when a replica flagpole is erected on the parade ground at Fort Hays State Historic Site that it be located a short distance from the excavated feature (F#981). Suggested possible locations for a flagpole reconstruction include: a few meters south of the wood planks located at the south end of the "South Trench;" a few meters west of the far end of the wood planks located at the west end of the "West Trench;" or at least five meters (16.25 ft) north of the north edge of the work area excavated on the northerly side of X-981.

The report on this project, *Results of Archeological Investigations in Search of the Original Flagpole, Fort Hays State Historic Site (14EL301)*,

Ellis County, Kansas, was completed by Marsha King in early March 1999.

**Investigations at the Lawrence
Union Pacific Railroad Passenger
Depot (14DO324), Lawrence,
Douglas County, Kansas**

On June 13, 1994, the Kansas Department of Transportation (KDOT) requested a Phase I review of the potential impact of Federal Aid project number 23 TC-0016-01, STP=T0001(601) on any subsurface cultural resources associated with the Union Pacific Railroad Depot in Lawrence, Kansas. This Federal Aid project involved the renovation and exterior restoration of the Union Pacific Railroad Depot. The depot project area is located at the northeast corner of US 59 and Locust Street, within Section 30, Township 12 South, Range 20 East. This area is bounded by North Second Street to the west, the Union Pacific railroad tracks to the north, North Third Street to the east, and Locust Street to the south. Phase I review of the project area indicated that several known or potential historic age cultural resources were present. The Phase I review, dated June 27, 1994, indicated that the proposed project potentially could impact an historical archeological component. On June 28, 1994, KDOT authorized a Phase II archeological field survey investigation associated with the same Federal Aid project. This was done in accordance with the goals and procedures of the Cooperative Agreement for Highway Archeological Salvage Program. The Phase II investigation, conducted by Marsha

King from July 5 to 8, 1994, consisted of both background research and field reconnaissance. It was determined that structural remains associated with the mid- to late-nineteenth century residential and commercial buildings along the east side of North Second Street were most likely preserved below the surface of the depot project area, thus warranting a Phase III investigation.

During June and July of 1995, Phase III archeological fieldwork was undertaken at the Lawrence Depot Site (14DO324) in order to determine whether the potential subsurface cultural resources identified during Phase I and II research were present and intact. The Phase III excavations focused on the area west and south of the depot building since this was the area considered most likely to contain remains of the buildings, outbuildings, and associated features once present along North Second Street. A total of five features were identified, including a stone-lined well, a foundation wall remnant, a post mold associated with a builder's trench, a trash pit containing a large quantity of butchered bone, and the probable remains of a disturbed outbuilding foundation. Archeological excavations demonstrated that 14DO324 did not possess an archeological record with high integrity, and due to site disturbances resulting from flooding (especially the 1903 flood), highway construction, utilities, and landscaping, the potential of locating deposits with any archeological or historical significance was considered to be minimal. Archeological and archival investigations at 14DO324

concluded that no historic properties eligible for listing on the National Register of Historic Places would be affected by the renovation of the Union Pacific Railroad Passenger Depot.

The report on this project, *Results of Phase III Investigations at the Lawrence Union Pacific Railroad Passenger Depot (14DO324), Lawrence, Kansas*, was completed by William Banks and Marsha King in April 1999.

Investigations Along K-27 Highway in Morton County, Kansas

Phase II archeological investigations were conducted within the 27-65 K-5753-01 primary road project in Morton County, Kansas during June 1998 and June to July 1999 by Kansas State Historical Society archeologists Timothy Weston and Marsha K. King. These investigations were authorized by the Kansas Department of Transportation (KDOT) in accordance with the goals and procedures of the Cooperative Agreement for Highway Archeological Salvage Program. A preliminary report, issued after the June 1998 fieldwork, was reviewed by the Forest Service. They requested additional Phase II investigations, including: 1) a 100 percent pedestrian survey of the federally-owned land and private in-holdings within the project area; 2) special consideration of the Santa Fe Trail crossing area; 3) location and documentation of steam tractors used for bank stabilization, probably during the 1930s or 1940s, at the south end of the Cimarron River bridge; and 4)

development of an historical context and documentation of the Tunnerville Work Center. The additional fieldwork was completed during the summer of 1999. Background research was conducted before, during, and after the additional fieldwork.

Results of the Phase II archeological pedestrian survey and geomorphological testing, found no evidence of prehistoric sites, cultural materials, or buried soil horizons within the 27-65 K-5753-01 project area. Near its northern end, the proposed highway project will come close to one previously recorded prehistoric site, 14MT131. The project will not impact this site as the existing road right-of-way is quite wide in this vicinity. With the exception of the Santa Fe Trail and Tunnerville Work Center, no evidence was identified to indicate that the proposed highway project would impact any historical archeological sites. It does not appear that the highway project will impact any prehistoric or historic archeological sites.

While the portion of the 27-65 K-5753-01 project area crossing to the Cimarron Cut-off route of the Santa Fe Trail was closely examined for evidence of trail ruts, swales, or other indicators, no evidence was found to suggest that trail remnants were present within the project area. Two nearby Santa Fe Trail sites, Middle Cimarron Spring site (14MT153) and Point of Rocks (14MT174), are both located at least a mile west of the boundaries of the 27-65 K-5753-01 project area and will not be impacted. While ruts or swales of the Cimarron Cut-off are visible across

much of the Cimarron Grassland (14MT181), none were found within the narrow project area boundaries immediately adjacent to K-27 where previous construction of the highway and associated ditches has impacted any trail remains. Ruts or swales become clearly visible a short distance to the west of the project area, and are also visible at some distance to the east. A precursor to the present dirt road leading west toward Middle Spring and Point of Rocks also caused some disturbance in the vicinity of the expected trail route on the west side of the highway. Due to the proximity of the project to these trail remnants, it is strongly recommended that during highway construction potential project impacts in the vicinity of the Santa Fe Trail crossing be kept at a minimum. This includes prohibiting use of either side of the highway in this vicinity as staging, storage, or parking areas for vehicles, heavy machinery, or any type of materials storage.

Archeological excavations near the south end of the K-27 Cimarron River bridge confirmed that at least three steam tractors had been used in an effort to stabilize the river bank and protect this bridge abutment. Two fragmentary steam traction engines and a partial M. Rumely Company steam tractor, most likely built between ca. 1911 and 1915, were identified during the field work (14MT306). The close association of the tractor remains with the southern abutment of the current concrete and steel bridge suggests that they were placed here some time after this bridge was completed in 1935, probably in response

to actual or potential flood damage to the bridge or abutment. Since the river widening ceased to be a major problem after 1942, it is most likely that the flood which caused the tractors to be used happened in 1937, 1938, 1941, or 1942. While an extensive search was made of the local newspapers, no articles were found to indicate an exact date for when the steam tractors were placed at the bridge. The Rumely tractor is sufficiently intact to provide a good opportunity for interpretation of this now obsolete technology and of how these machines were used later in river bank stabilization efforts. It is recommended that prior to commencement of 27-65 K-5753-01 project construction, the Forest Service be allowed to remove this steam tractor for preservation and interpretation.

The Tunnerville Work Center (14MT305) is recommended for listing on the National Register of Historic Places, with significance under criterion A. The work center was built during the Depression to serve as field headquarters, equipment and supply storage, and maintenance facility for the Morton County Land Utilization Project. As the only land-use project undertaken within the State of Kansas, this project was intended to reestablish grass cover on federally-acquired submarginal lands in one of the counties hardest hit by drought and wind erosion. The project signified a turning point in land management and conservation efforts in the state. The appearance of the Tunnerville Work Center remains in character with its original plan and intended setting. Of the six buildings originally constructed

at the Tunnerville Work Center ca. 1938, five are extant, contribute to the site's historical significance, and retain their original appearance and plan, as well as most of the original siding and roofing materials. Two of the original structures, the Office and Oil House, are no longer present. Current 27-65 K-5753-01 project plans call for construction of a pull-out in front of the work center site. As proposed, this drive and parking area will impact the location of the non-extant Office and will require the removal of a large number of trees from the shelter belt to

the west of the buildings. While these actions will impact the site, they will not alter the Tunnerville Work Center's overall significance or eligibility for listing on the National Register of Historic Places.

The report on this project, *Results of Phase II Archeological Investigations in the 27-65 K-5753-01 Project Area, Morton County, Kansas*, was completed by Marsha King in September 1999.

NAGPRA News for April 2000

Myra Giesen

NAGPRA Coordinator, Office of Policy, Bureau of Reclamation

The Native American Graves Protection and Repatriation Act ((NAGPRA) 25 U.S.C. 3001 et seq.) was signed into law ten years ago this November. I am assuming the reader knows the NAGPRA basics; however, if this is not the case please contact me for a quick lesson. This past April 2-4, I attended my ninth NAGPRA Review Committee (Committee) meeting. As usual, I returned home to Lawrence emotionally drained and contemplating what the heck does it all really mean. This meeting, like the others, was filled it the usual highs and lows. Below I highlight eight points of general interest from, this, the 19th Committee, meeting.

Point 1. Dr. John Robbins, Assistant Director of the Cultural Resource

Stewardship & Partnerships, National Park Service (NPS) served as the designated government official for this meeting through delegation of authority from Departmental Consulting Archaeologist (DCA), NPS, Frank McManamon. In 43 CFR 10 the designated government official is assigned by the Secretary of the Interior as the DCA. In this capacity, the DCA is responsible for the administration of matters relating to these regulations. Robbins indicated that the request by the Committee and the public to move this responsibility to a nonscientific program was heard by the Secretary. The announcement of the move from the DCA to the Assistant Director of the Cultural Resource Stewardship & Partnerships is forthcoming. Robbins only learned of

this new responsibility when he took his current position two months ago. Robbins is trained as an architect and recently moved from the directorship of NPS' National Center for Preservation Technology and Training in Natchitoches, LA.

NPS has split NPS NAGPRA efforts into two categories: park NAGPRA and general NAGPRA. Park NAGPRA will be handled by McManamon and Valetta Canouts and will deal specifically with park-based compliance. Robbins will handle general NAGPRA. If NPS is part of a dispute that comes before the Committee, "park NAGPRA" will represent the park and Robbins, as part of "general NAGPRA," will continue in his capacity of designated government official.

Point 2. The final regulations on civil penalties (43 CFR 10.12) should be complete in the next six months. The Committee is concerned with both museum and federal compliance and have requested NPS take investigating allocation of noncompliance seriously.

Point 3. The Chaco Cultural National Historic Park (Chaco) respectfully declined the Committee's findings (published at <http://www.cast.uark.edu/products/NAGPRA/nagpra.dat/rcf004.html>) stating the four recommendations are not required under statute or regulation.

Point 4. The Committee will have two new members next time they meet. As members of PAK and other professional organizations, we should nominate individuals that support our point of

view on issues of compliance and repatriation. If do not nominate an individual, then we should support the nominee of the Society for American Archeology. A nomination solicitation was published in the Federal Register on February 10, 2000. Go to <http://www.cast.uark.edu/products/NAGPRA/nagpra.dat/rcs004.html> for the complete text. The Secretary of the Interior will appoint two new members. One appointee will be selected from nominations received from Indian tribes and Native Hawaiian organizations. This appointee is not required to be a traditional religious leader. The other appointee will be selected from nominations received from national museum organizations and scientific organizations. Neither appointees can be a Federal officer or employee. Nominations should be sent to Robbins by June 19, 2000.

Point 5. The Committee completed another version of their Draft Principles - Disposition of Culturally Unidentifiable Human Remains. For copies of previous recommendation documents go to <http://www.cast.uark.edu/products/NAGPRA/rrec.html>. It is my understanding NPS will publish the principles and collect comments. Depending on the comments, the Committee may revise the principles or the unchanged principles will be forwarded to a rule making group to draft the regulation based up the principles. The principles will be incorporated into the preamble of the regulations. These principles include such language as "[a]dditional study is not prohibited if the federal agencies

and museums and Indian tribes in consultation agree that such study is appropriate.” PAK may want to submit comments as a whole or, at least, everyone should consider commenting on these principles as individuals. I will post the principles on PAK-L once they are published in the *Federal Register*.

Point 6. The Committee is planning its next meeting in Nashville either the 1st or 2nd week of November 2000 and are

proposing the following meeting for northern California Spring 2001.

Point 7. Armand Minthorn will be the Committee’s chair at future meetings.

Point 8. Revised regulation will be coming out about inadvertent discoveries and planned excavations on federal lands.

Investigations of Great Bend Aspect Sites in Marion and McPherson Counties

Donna C. Roper
Kansas State University

Through the convergence of multiple pathways of inquiry, I find myself currently working with Great Bend site material from both Marion and McPherson counties. Some current preliminary results are of considerable interest and have considerable implications for understanding both Great Bend cultural dynamics and the boundaries of Coronado’s Quivira.

Investigations at 14MN515

Under contract to the City of Marion for the East Marion Interceptor Sewer Project, I performed Phase 2, 3, and 4 investigations on a portion of 14MN515. The Phase 2 work, conducted in the fall of 1995, showed that the force main line of the sewer project would cross a portion of

14MN515, one of the Great Bend aspect sites in the Marion District, placed on the National Register of Historic Places in 1976. Avoidance turned out to not be a feasible option, so the project proceeded through Phase 3 and Phase 4 investigations in 1996. A report of the Phase 2 study of the entire interceptor sewer system project area (Roper 1995) and a preliminary report of the Phase 3 investigations (Roper 1996) were written and submitted as the project went through the various phases. Project funding ended with the completion of the Phase 4 fieldwork, however, leaving the final report a rather protracted available-time undertaking. It now is nearing completion and I expect the document to be submitted for peer review in the summer of 2000 (Roper 2000a).

The site, 14MN515, is one of the floodplain sites at Marion. My investigations showed it has two stratified Great Bend aspect components. The upper component is represented by a rather continuous scatter of debris, including pit features, along the crest of a natural levee bordering the Cottonwood River. The lower component was encountered only in one part of the project area. Exposure was limited to a large rock hearth feature. Artifact association with this feature was limited, but sufficient to allow assignment to the Great Bend aspect. A fragment of a corn cob was found in this feature. With financial support from the John Reynolds Memorial Research Fund of the Kansas Anthropological Association, a part of this corn cob has been submitted for AMS radiocarbon age determination. The material was submitted in late March 2000 and results are not yet available. The date of this sample will bear on the as-yet-unresolved question of when Great Bend occupation was established in the upper Cottonwood River valley.

Collections Analysis for 14MN328

Inspired by my excavation at 14MN515, a couple of years ago I took on the analysis of portions of the collections from 14MN328, the Great Bend site excavated by the Kansas State Historical Society in 1986 (Lees, et al. 1989). Like the 14MN515 analysis, though, it started well but slid to a back burner. I have brought it to the fore now, and am working along with it as well as with 14MN515. I do

not expect to complete this analysis until next winter, however.

The Ralph Bell Collection

The Ralph Bell Collection is a large collection of Great Bend aspect material donated to Kansas State University in 1989. The bulk of the collection is from two sites in McPherson County: 14MP1 (the Paint Creek site) and 14MP2 (a poorly-known site on Wolf Creek in northwest McPherson County). A small amount of material is from sites in Rice County. Although only a small proportion of the material has provenience beyond site number, at least virtually all of it can be attributed to a specific site, making the collection of considerable interest for some purposes. Several findings to date are notable.

Among the numerous reconstructible or reconstructed ceramic vessels are two Pawnee trade pots. One is reconstructed and virtually complete; the other is represented by a large rim sherd. The literature to this point contained a published reference to precisely one Pawnee sherd from Great Bend context (Udden 1900:Figure 10; Udden recognized this sherd as distinctly different from the other Paint Creek site pottery, but did not correctly identify it, which is not surprising given the state of knowledge of both Pawnee and Wichita archaeology a century ago). A description and consideration of the implications of the two Bell Collection vessels appears in the May 2000 issue of *Plains Anthropologist* (Roper 2000b).

One of the vessels had heavy residue on the lip and exterior surface. This piece was submitted to Linda Scott Cummings at PaleoResearch Labs in Golden, Colorado for residue extraction and analysis. Preliminary results were reported at the 1999 Plains Conference (Scott-Cummings 1999). For comparison, a Great Bend piece with heavy residue also has been submitted.

While going through the pottery to select a suitable residue-encrusted Great Bend aspect piece, I began to notice that presence or absence of food—i.e., cooking—residue does not seem to be random with respect to vessel form. I cannot as yet demonstrate it, but suspect that a formal analysis would show a correlation between vessel form and vessel function and that this will be consistent with the findings of Henrickson and McDonald's (1983) cross-cultural study of vessel form and function.

My interest in the McPherson County sites—i.e., the Great Bend sites in the Smoky Hill River drainage—is stimulated, in part, by a train of thought I began a couple of years ago when I started to wonder about the extent of Coronado's Quivira. The traditional interpretation of Jaramillo's report of being taken to "the remotest region of Quivira" (Hammond and Rey 1940:304) is that the expedition was at the Smoky Hill River drainage sites. A necessary, although not itself sufficient, condition for this identification is evidence that these sites existed in 1541. My search for such evidence to this point is in vain. The Pawnee pots—one of which is from a McPherson

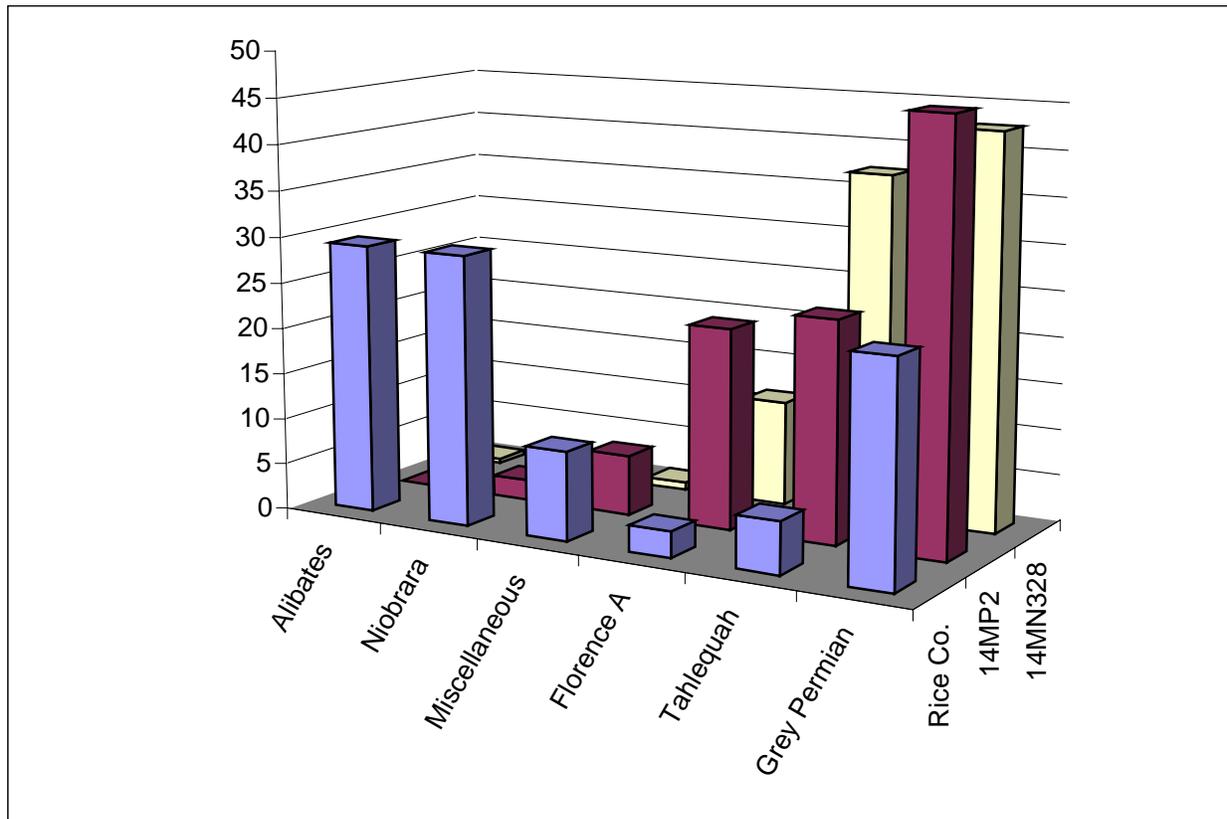
County site, as of course was Udden's—do not attest to a mid-sixteenth century occupation. The other trade material described by Wedel (1975) from McPherson County sites also does not attest to an occupation earlier than about 1600. The Bell Collection contains several glass trade beads from 14MP2. If I have correctly identified them, using Brain's (1979) bead typology, the earliest dates of manufacture of those specimens also are around 1600. Evidence is abundant for the existence of the Rice County—i.e., Cow Creek and Little Arkansas River drainage—sites as early as the mid-1400s and continuing through the 1500s and 1600s. I am still waiting to be shown definitive evidence that the Smoky Hill River drainage sites existed in 1541 or even much before 1600. The need for such evidence bears not only on the route of the Coronado expedition but also on our understanding of Great Bend aspect cultural dynamics.

Other things seen in the Bell Collection add further fuel to our need to reexamine what we think we know about the Great Bend aspect. The McPherson County sites normally are grouped with the Rice County sites as part of the Little River focus. Without at that point having knowledge of Zehnder's (1998) study, I had begun wondering what a comparison of lithic raw materials used at Rice County and McPherson County sites might look like. Using the Bell Collection, I addressed the question using scrapers, the largest single artifact class represented. The Rice County sample is from multiple sites, the McPherson County sample is from 14MP2. The

tabulation shows that the people of the Rice County sites were using large proportions of Alibates agatized dolomite and Niobrara jasper, along with Permian chert from the Flint Hills. In contrast, the people of the McPherson County sites were using a large proportion of Permian chert from the Flint Hills, as well considerable amounts of Florence A or Cowley County chert and Tahlequah chert from the Ozark border. In other words, I independently replicated the results Zehnder (1998) got in his study of debitage from the Tobias (14RC8) and Sharp's Creek (14MP408) sites.

To make matters even more interesting, however, I compared the Bell Collection data with a tabulation of

raw material use at Marion, as reflected in the scrapers from 14MN328 (the 14MN515 sample is small, although consistent with the 14MN328 sample). As Figure 1 clearly shows, the McPherson County and Marion County raw material signatures are very similar to one another and each is markedly different that the Rice County raw material signature. I later found the same thing when I compared the debitage from 14MN515 (Roper 2000a) with Zehnder's results. It is premature to draw too many conclusions, but analyses such as these, together with the other information reviewed in this abstract, suggest a real need for further investigation of variability within the Great Bend aspect.



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An Update on the Arkansas City Tie-Back Levee Project

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In December 1998, the Kansas Antiquities Commission undertook an emergency salvage excavation for the Arkansas City Tie-Back Levee Project. The circumstances of this project—which affected a portion of the Great Bend aspect, Lower Walnut focus Larcom-Haggard Site (14CO1)—by now are well-known to most PAK members and are described in PAK Newsletter #3 (December 1998) and the January-February 1999 issue of *Kansas Preservation* (Vol. 21, No. 1, pp. 2–3).

The project now is in the analysis phase and is being conducted jointly by the three Kansas universities with anthropology programs. I continue to coordinate the project as designated agent for the antiquities commission. As of this writing, about 20% of the feature fill has been floated. The materials directly recovered and bagged in the field are sorted and have been dispersed to the persons responsible for analysis of each debris class. Thus, pottery and animal bone have been

delivered to Wichita State University where they will be analyzed by Anna Lenhart. Floral material has been delivered to Mary Adair at the University of Kansas Museum of Anthropology; Mary also has the light fractions from the flotation fill processed to date. Chipped stone and any miscellaneous material, including unmodified rock, is at Kansas State University where I am analyzing it. I also have drafted a site investigation map and written some of the feature descriptions.

The progress we have made in flotation and in cleaning and sorting collections has been greatly assisted by Kansas State University students, either working as volunteers or as part of independent study projects. We are grateful to them and to all volunteers at all institutions for help with this joint project. Of course, just over 80% of the flotation remains to be done and I will be happy to put anyone to work on it at any time.

Kansas Forts Network Archaeology Project

Marsha K. King
Kansas State Historical Society

Legislation sponsored by Kansas Senator Nancy Landon Kassebaum (now Baker) near the end of her term in office secured a National Park Service grant to study eight Kansas forts (Forts Dodge, Harker, Hays, Larned, Leavenworth, Riley, Scott, and Wallace). The grant was administered by the Kansas State Historical Society through the Kansas Forts Network. Since professional archeological investigations had not been conducted at Forts Dodge, Harker, and Wallace, a portion of the grant money funded archeological testing at these three frontier military posts. The work at these three posts was conducted by Marsha King with assistance from Karla Donohoe, Karolyn Kinsey, Chris Schoen, Martin Stein, Virginia Wulfkuhle, the Kansas Archeology Training Program, and many volunteers. Other projects sponsored under the Kansas Forts Network grant included a Kansas Frontier Forts advertising campaign launched in 1996, production of a Kansas Forts video, and revising existing and producing new histories of these eight posts as part of the Kansas Forts Series.

Fort Harker

During the summer of 1996, archeological investigations were conducted at the site of Fort Harker (14EW310), an 1866/67-1872/73 frontier military post. The work was undertaken as part of the Kansas Archeology Training Program (KATP), sponsored by the Kansas State Historical Society and the Kansas Anthropological Association. The Fort Harker project was funded by a grant from the National Park Service, and administered by the Kansas State Historical Society through the Kansas as Forts Network.

The site of Fort Harker is located in and adjacent to the town of Kanopolis, Ellsworth County, Kansas. When it was established in 1866, the Fort Harker Military Reservation included sixteen square miles with most of the nearly eighty buildings located near the center of the reservation around a rectangular parade ground. After the post was abandoned by the military the town of Kanopolis was laid out over the fort site. Four fort-period buildings remain standing within the town.

The KATP investigations were designed to unearth information concerning the fort and the military

personnel and civilians who lived and worked at Fort Harker. Specific goals of the 1996 KATP investigations at Fort Harker included: providing a better understanding of the layout of the fort; determining the presence, condition, and extent of subsurface remains; documenting the standing fort structures; and ascertaining the extent of previous disturbances from post-fort town development and pothunting. During the project, efforts were made to locate and examine twelve no longer extant fort-related structures and features. Among these were one frame and two log barracks buildings; the site of a possible fifth barracks; two mess houses; a company privy; two officers privies; and another possible privy; one of the four cavalry stables; and the post bakery. This effort was designed to uncover additional information about the layout and construction of the post. In addition, the standing structures were documented through scaled drawings, photographs, and descriptions.

Historical background research was conducted on the construction, military, and occupation history of Fort Harker. Military records provided a wealth of information on military campaigns, comings and goings of the garrison and other military personnel, communications between the fort and headquarters, and the health of the soldiers. They offered few details about daily life, nonmilitary activities, or the lives of nonmilitary occupants (i.e., civilian employees and the wives and families of military personnel). Manuscript census records, diaries, reminiscences, sketches, and

photographs provided brief glimpses of important events, occasional highlights of daily life, or moments frozen in time.

The results of the 1996 KATP investigations at Fort Harker indicated that subsurface remains, including remnants of fort-period structures, features, and artifacts, are present beneath the lots and streets of Kanopolis. While town-period construction and previous digging by collectors have impacted some portions of the fort site, substantial subsurface remains are present. The excavations at the log barracks provided additional clues about the layout and construction of the fort. Additional information on daily life, eating habits, and activities were gleaned from archeological examination of discarded trash and other remnants left behind in privies, under floors, and on the ground surface.

Additional significant archeological remains of Fort Harker may lie buried and relatively undisturbed beneath the streets and yards of Kanopolis and in the surrounding fields and farm yards. These are important and precious cultural resources which should be preserved and studied to aid in the understanding of military life on the Kansas frontier by ourselves and future generations.

The report on this project, *Results of Archeological Investigations at Fort Harker, 14EW310, Ellsworth County, Kansas*, was completed in 1997 and distributed as KSHS Contract Archeology Publication No. 17.

Fort Dodge

During July 1996 members of the Archeology Office of the Kansas State Historical Society (KSHS) conducted limited archeological field investigations at the site of Fort Dodge (14FD315), an 1864-1882 frontier military post in Ford County, Kansas. Since 1890 the fort site has been operated as the Kansas Soldiers Home (KSSH). The work at Fort Dodge was undertaken in coordination with Kansas Forts Network (KFN), and was partially funded by a grant from the National Park Service (NPS). The investigations conducted at Fort Dodge used a multi-disciplinary approach, combining information garnered from history and demography with archeological field investigations, interpretations, and artifact analysis to enhance the understanding of this historic military site. Many primary and secondary sources provided information.

Goals of the 1996 archeological investigations at Fort Dodge included providing a better understanding of the layout of the fort and construction of the post buildings; determining the presence, condition, and extent of subsurface remains; and ascertaining the extent of previous disturbances from post-fort Soldiers Home development and pothunting. During the fieldwork, efforts were made to locate and examine eleven fort-related structures and features. Among these were the stable and privy associated with the Commanding Officer's Quarters, an Officer's Quarters that once housed the post surgeon, a rear

entrance and wash house associated with one of the post's three enlisted barracks, the detached ward of the post hospital, a laundress quarter near the post school, a granary, the vicinity of the post sutler's store, blacksmith and wood-working shops, and the teamsters quarters.

Archeological investigations at Fort Dodge were successful in many of the goals set out for the project. Thirteen excavation units were used to investigate the vicinities of 10 to 15 fort-period structures and one privy feature. Units were excavated near three of the standing fort-period structures: the Commanding Officer's Quarters, the Detached Ward of the Post Hospital, and one Enlisted Barracks. Other excavations were conducted in open areas which maps suggested were the probable vicinities of non-extant fort buildings. Efforts to locate these structures were only partially effective since, as expected, a number of intrusive post-fort features were identified. Most of these features were various utilities associated with the site's post-military occupation by the Kansas Soldiers Home. However, the investigations were able to provide details of the extent and condition of the resources, both standing and subsurface, present at the site. This includes maps showing the relationship between the archeological units and buried remains and the modern buildings and roadways associated with the Soldiers Home. A total of 1,419 well documented and provenienced artifacts were cataloged from the excavations and trench monitoring. The majority of the artifacts recovered were identified

as domestic-related items, while a large number were associated with construction activities. Only six recovered artifacts were clearly associated with the military occupation of the site.

Results of the fieldwork conducted at Fort Dodge suggest that extensive construction during the more than 100 year occupation of the site by the Kansas Soldiers Home has seriously impacted subsurface evidence of Fort Dodge. However, subsurface remains, including remnants of fort-period structures, features, and artifacts, are present between and around the later Soldiers Home structures. It is possible that more intensive archeological investigations could identify some additional fort-period remains. Additional remnants of the nineteenth century military occupation of Fort Dodge may lie buried and relatively undisturbed beneath the streets, in open areas between Soldiers Home buildings, cottages, and other structures, and in the surrounding fields. Further research and investigations at the site could identify the locations of other fort-period buildings and features (e.g., enlisted and officer's privies, wells, trash dumps, quarry areas, firing ranges, etc.). These are important and precious cultural resources that should be preserved and studied to aid current and future generations in understanding military life on the Kansas frontier.

The report on this project, *Results of Archeological Investigations at Fort Dodge, 14FD315, Ford County, Kansas*, was completed in the summer

of 1999 and distributed as KSHS Contract Archeology Publication No. 20.

Fort Wallace

During May 1997 members of the Archeology Office of the Kansas State Historical Society (KSHS) conducted limited archeological field investigations at the site of Fort Wallace (14WC303), an 1866-1882 frontier military post in Wallace County, Kansas. The work at Fort Wallace was undertaken in coordination with Kansas Forts Network (KFN), and was partially funded by a grant from the National Park Service (NPS). The investigations conducted at Fort Wallace used a multi-disciplinary approach, combining information garnered from history and demography with archeological field investigations, interpretations, and artifact analysis to enhance the understanding of this historic military site. Many primary and secondary sources provided information useful to this research.

Goals of the 1997 archeological investigations at Fort Wallace included providing a better understanding of the layout of the fort and construction of the post buildings; determining the presence, condition, and extent of subsurface remains; and ascertaining the extent of previous disturbances from farming, previous backhoe excavations, and pothunting. During the fieldwork, efforts were made to locate and examine 11 fort-related structures and features. Among these were the Post Hospital, Hospital Steward's House, Guard House,

Magazine, East and West Stone Enlisted Barracks, and Officer's Row.

The limited archeological testing determined that significant intact archeological deposits and subsurface structural remains are present at this site. Time and budget constraints limited the investigations, but 313 soil core tests were taken and a total of 13 shovel tests and 20 excavation units of varying sizes were excavated. The archeological fieldwork uncovered intact foundation or footing remnants of four of the fort's stone structures, including the Hospital (ST#9), the East (ST#29) and West (ST#11) Stone Enlisted Barracks, and the Guard House (ST#23). While the limited excavations conducted in the vicinity of other fort-period buildings did not identify structural remains, construction materials and artifacts were noted or recovered from Officers' Row (ST#1-5), another Officers' Quarters (ST#6), and the Magazine (ST#24).

A total of 935 well documented and provenienced artifacts were cataloged from the excavations conducted at Fort Wallace in 1997. The majority of items recovered were related to the construction of post buildings, while other artifacts represented domestic or military activities at the post. None of the artifacts recovered during the field investigations at Fort Wallace appeared to be related to the Native American inhabitants of the Smoky Hill Valley or to later civilian occupations in the area. Artifacts recovered during the 1997 archeological investigations will be

made available to the Fort Wallace Memorial Association, under a long-term loan arrangement, for display at their museum in Wallace. Collections of Fort Wallace artifacts in the possession of the Fort Wallace Memorial Association Museum were also examined and cataloged. Some of these artifacts were collected by early settlers, but the majority of these items were recovered during the amateur excavations conducted at the fort site in the 1960s. Unfortunately, provenience information for most artifacts in these collections was limited.

The archeological investigations conducted at Fort Wallace indicated that fort-period structural remains and artifacts are present at the site. While the Fort Wallace site was disturbed by the removal of the fort structures soon after abandonment and more recently by amateur extensive excavations and cultivation, significant evidence of the fort remains intact below the ground surface. It is possible that more intensive archeological investigations could identify some additional fort-period foundations and features. These are important and precious cultural resources that should be preserved and studied to aid current and future generations in understanding nineteenth century military life on the Kansas frontier.

The report on this project, *Results of Archeological Investigations at Fort Wallace, 14WC303, Wallace County, Kansas*, was completed in December 1999 and distributed as KSHS Contract Archeology Publication No. 21.

