TIN STRIPS & DISCS: POSSIBLE INDIAN REUSE OF EARLY TIN CANS

by

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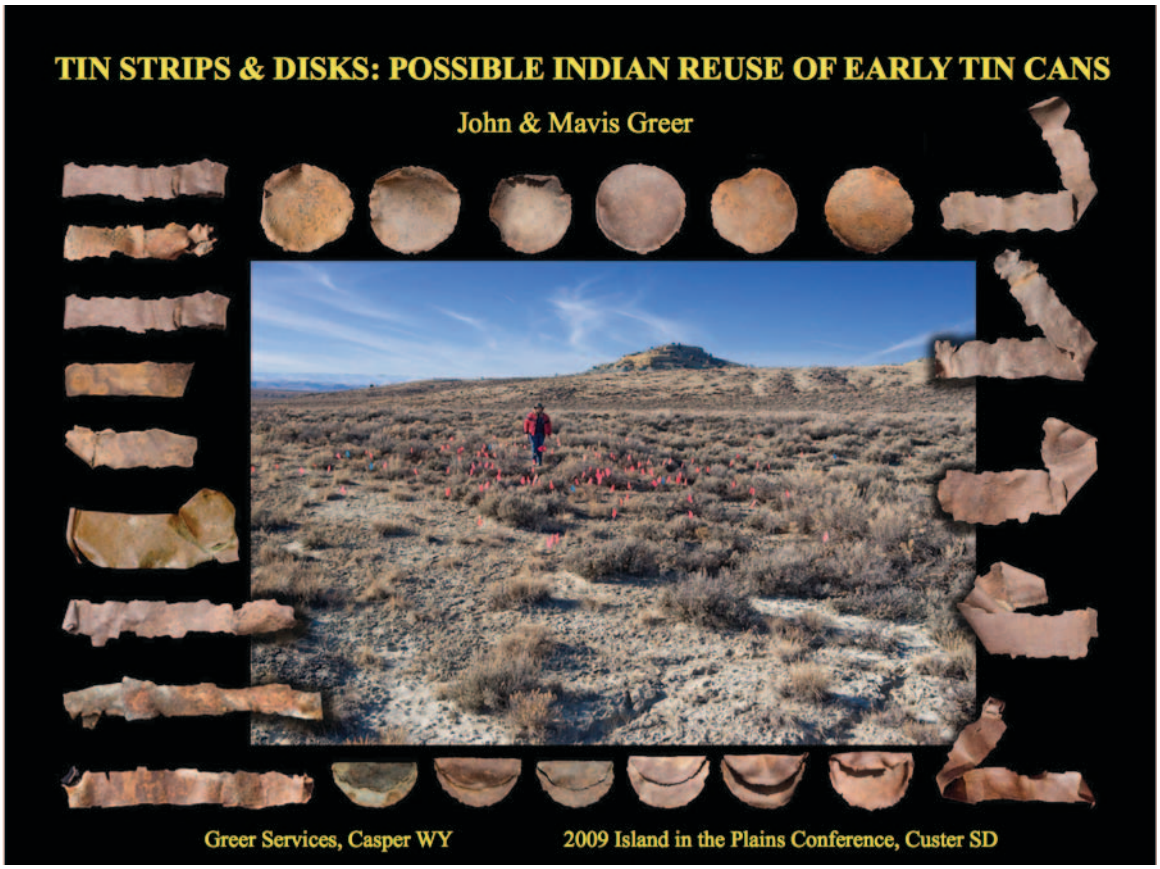

Figure 1. Strips and discs, plus flagged site IF6940-1 in southwestern Wyoming.

Following is an overview of a Native American site type that occurs across Wyoming but is of unknown function. Sites are represented by dense scatters of small cut pieces of early hole-in-top tin cans and are easily overlooked. The sites are specialized activity locations and contain only manufacture by-products consisting of cut tin strips, nonperforated discs, and a few trimmed end seams, and otherwise there are usually no other associated artifacts. Sites appear to date within the period of about 1847 to 1900.

We recognized these distinctive sites in the mid-1980s as Native American sites of a new type. To date we have recorded 26 such sites across much of Wyoming (Figure 2), with a total content of about 3600 artifacts. So far no sites of this kind are known to have been recorded outside of Wyoming.

Site recording by other archeologists suffers from two problems –recognition, and regulations that restrict recording. The Wyoming BLM and SHPO do not allow historic Native American sites of this kind to be recorded as sites (State Protocol 2006:Appendix D, Item 14), and site numbers are not issued to such locations. According to several professional archeologists and BLM managers in the state, such sites most often are simply not recorded during current cultural surveys.

Sites are difficult to recognize and to the untrained eye look like sparse remains of normal, discarded, rotted, rusted tin cans. The small metal pieces are often coated with mud or dust; obscured by grass, sage, or sod; or covered with a thin surface layer of wind-blown sand.

Determining total sample size is important to understanding site function, age, and affiliation, but degree of coverage cannot be predicted — and we have conducted several tests on completeness of initial surface inventory. Inspection results vary according to amount of time and attention at the site, inspection methods, and amount of surface sand or vegetative cover. Intensive inspection during a normal survey will record up to a maximum of 30% of the total artifacts during initial careful recording. Intensive mapping, with crisscrossing 1-foot transects will inventory up to 90% of total artifacts on ideal surfaces, but usually considerably less. This plus complete metal detector work will approach 95% coverage, but continued searching always results in more artifacts — thus changing numbers, density, ratios, and even artifact types. Intensive metal detector work is essential in areas of tall sage and concentrated sage duff. Except for a couple of our intensive recordings, reported artifacts are probably only 50-75% of the total at the site, or a maximum for other archeologists of about 10-30% for sites that we have re-recorded. These effects severe underrepresentation should be taken into account when doing syntheses.

The present sample is considerably limited, considering the amount of work being done across the state with essentially no recording of these sites, and it is likely that thousands more sites have been encountered but not reported. It is not known how a sample thousands of times larger than ours would affect our present generalizations.

TOPOGRAPHY

All sites occupy topographic settings common for all kinds of habitation sites. They are always on nearly flat to gently sloping locations, never on hillsides or steep slopes.

Sites are always in open areas and never among dense trees, and are mostly located near drainages, edges of broad flats, or extensive rolling prairie. These are areas most commonly surveyed for energy projects, which almost certainly affects known site distribution.

In the last few years, sites also have been found on juniper covered ridge crests. Actual topographic distribution is not certain, but it appears that sites can occur almost anywhere that habitation would be reasonable.

No sites occur on bedrock, although exposures and bluffs are common throughout the state. This suggests selection for certain kinds of terrain and soil characteristics.

SITE SIZE AND CONFIGURATION

The sites appear to be specialized manufacture stations for processing hole-in-top tin cans obtained from a nonlocal source and taken to a place where other recognizable historic materials were not present. Activities strictly focused on processing the entire sample of cans, and the numerous artifacts remaining at the site presumably consist only of discard by-products.

There is nearly total artifact consistency between sites, and materials are concentrated within fairly well defined site boundaries. Central areas are more heavily concentrated, and outlier scatter appears to be the result of animal trampling and some degree of wind dispersal and sheetwash erosion. Thus, the original concentration of materials on a site was smaller and denser than what we now observe, as is probably universal.

The accompanying graph (Figure 28) indicates the observed number of artifacts per site. Three sites contain only one item, and the remaining sites range fairly evenly between 30 and 500 items per site with no obvious preference for size. This indicates human activity that varies according to the amount of raw material to be processed and the amount of time and energy that the group chose to expend on that activity. Plotting of site maximum size (of 24-76 meters) and site enclosed area both have the same kind of curve (essentially identical to this), indicating no preferred site size, extent, area, or content. These show that all site attributes are culturally controlled according to group size and amount of processing, and do not represent an outside influence or recent activity.

Consistency of contents indicates that activities were precise and strictly focused on processing the entire sample of cans. The procedure was organized, planned, and well rehearsed.

CONTENT

Looking more closely at content, artifacts are either exclusively or overwhelmingly dominated by cut strips, nonperforated discs, and end seam fragments, with can ends always absent. The cut pieces are made from early hole-in-top cans with side seams of both early overlapping and later interlocking styles. Old style cans, apparently milk cans, with overlapping lateral seams are the only cans found so far in Wyoming with nonperforated discs of this consistent 1.5-inch size. Figure 27 shows examples of what at least some of the original cans looked like with a simple-overlap lateral seam and nonperforated filler disc. Most processed can pieces are now crumpled from subsequent animal trampling. There are almost always no other historic artifacts and no indications

of cultural features or deposits, with a few exceptions of more modern items. There usually are no clear indications of cultural use or additional modification of materials still at the site, with the exception of a few bead-like pieces at a few sites.

Although there is some treatment variation, essentially the can was heated to melt off the solder, and the ends were cut out by carefully cutting along both sides of the end seam, consistently producing a ¼-inch wide strip along the seam (Figure 26).

The body was opened up and cut horizontally into narrow strips mostly about ½-inch to 1 ¼-inch wide (Figure 20). Some are very evenly cut (presumably with shears), some are serrated, and some are very crude, depending on the site. Strips constitute the majority of artifacts at all sites (except localities containing only one disc). In a couple of recently recorded sites, some strips are cut longitudinally, some with the lateral seam still along the edge (Figure 21). Although this form of vertical cutting is not the most common, it does show accepted variability in how cans were processed. It does not help, however, in function, why the cans were being cut in the first place, or what was being produced.

The filler disc is always 1.5 inches in diameter and never perforated or soldered(Figure 24) — which immediately identifies these sites and distinguishes them from all other can sites. Some discs are single thickness, and others are double discs, with the discs stamped out together, which again distinguishes these sites from all others. The disc was presumably removed from the can end, and the remainder of the end — a cleanly cut circular piece about 2.5 to 3" in diameter and with an open center – is never present at these sites and was always removed, along with some of the body strips. Thus, the processed strips, the discs, and the end seam fragments are mostly by-products, and the cleaned trimmed ends appear to be the primary intended target.

Patterns also include folded body strips and folded-over discs. Many strips have simple angular folds of a recurrent form, which could be natural or accidental (Figure 22). Discs, likewise, are commonly folded (Figure 25).

Three sites contain processed strip fragments that were made into bangles – or bead-like objects of tinkler construction – with folded to rolled upper ends (for attachment horizontally to a shirt) and tabbed lower ends (Figure 23). All objects on these sites, however, are the discarded rejects and not finished pieces to be taken away for use.

Folded discs may also have been intended for this same kind of decorative use, but that use is questionable. Both single and double discs are folded. Dozens of discs have one edge folded over about 25-30 percent as if they were to be strung in the same horizontal way as the tabbed bangle beads (Figure 25). On some sites many folds are 50 percent, or across the middle. Most folds, however, are essentially flat and without an adequate opening for a suspension string. Even so, with dozens of examples, they certainly form a recurring pattern. There are

also many artifacts that appear to be unfinished tinklers made on discs, either with intersecting partial folds that produce a wide triangular shape, or the common rolled conical form. So far the sample contains no finished conical tinklers, either the short or longer varieties.

At a recently recorded site in northwestern Wyoming, a composite artifact was found consisting of disc perforated off-center probably with a small awl or a knife. A carefully trimmed end seam fragment was threaded through the small hole and was bent over, much like a shield design in rock art (Figure 13). It is nothing one would expect on a sheepherder camp.

Other items are rare, and we previously dismissed other nearby materials as intrusive and from unrelated earlier or later use of the same or nearby location, such as lithic artifacts or late period cans. We are now reevaluating those relationships.

ASSOCIATIONS

Inspection of co-occurrence shows a correspondence higher than would be expected by chance of tipi rings and stone artifacts. Of the total sites 25% have rings either on-site or adjacent, and 46% of the sites contain flakes or stone arrowpoints. Although the correspondence is circumstantial, the numbers strongly suggest a direct cultural association.

If we were randomly to pick areas on the landscape 30 meters or so across, the likelihood that an area would contain flakes is extremely low, almost certainly less than one percent. But if strips and discs are at that location, the likelihood for stone artifacts jumps to 46 percent, so that one would expect flakes and tools on half the strips-and-discs sites and rare anywhere else. Equally impressive are tipi rings, where randomly selected areas essentially would not be likely to have rings at all, but if strips and discs are present, there would be a 25 percent chance that recognizable tipi rings would be on-site or adjacent to the strips-and-discs processing area. The numbers suggest a significant relationship that is not obvious in the field.

SITE INTERPRETATION

Although purpose still is not clear, sites certainly represent intensive manufacture of thin metal objects by an individual or small group with a very limited purpose.

In at least some cases these items include the horizontally attached tin beads or bangles mentioned above, essentially an early form of tinkler. People also could have been using pieces of cans to make such things as knives, arrowpoints, conchos, decoration for clothing or horse trappings, decorations on knife handles or spears, or strip wrappings on knife handles, spears, or clubs — all common uses of thin metal such as this.

From Canada to Mexico, cut can pieces were used in construction of such items — especially arrowpoints and decorative pieces — with cut tin or thin metal progressively replacing previous natural materials, a widespread and commonly recognized cultural pattern. In Wyoming museums, Native American items constructed of tin cans include arrowpoints, tinklers, knives, a fine saw, and other objects.

AFFILIATION

Although cultural affiliation still is uncertain, we have considered dozens of possibilities. Many explanations have been suggested to us, some better than others.

For example, one BLM district is pushing that these are the remains of bombs thrown out of an airplane, even though not supported by observed evidence or historical reference. However, materials are not randomly distributed and never occur on steep hill slopes, as one would expect for such an explanation. The sites are never associated with concentrations of machine gun cartridges or anything pertaining to WWII aerial gunnery practice. Indeed it is unlikely that there would be an Air Force training policy to throw incendiary devices out of planes into sagebrush and juniper areas where widespread and uncontrollable prairie fires would be the certain result.

Another common explanation is that the sites are normal herder camps at which some presently unimaginable activity must have occurred. The cut tin pieces, however, are not found on normal herder camps or other early historic Euroamerican sites.

After considering field observations and all possible explanations, we reject the likelihood of primary site affiliation with Europeans of any time period or purpose. The only reasonable explanation is that sites are the result of specialized Native American activity, and we continue to amass more and more circumstantial support along with a few direct associations, some of which we have mentioned here. Intensive ethnohistoric research so far has not produced direct reference to these kinds of sites or activities.

DATING

Can technology shows that the cans must date no earlier than 1847 and no later than about 1900. The nonperforated discs and simple-overlap lateral seams suggest a time early within this period, while possible interlocking lateral seams suggest a time later within the period. Future analysis could probably date the materials more closely, especially if they were collected. No analysis has ever been done other than our initial field assessment under limited conditions. It appears, however, that the sites together represent a very short time span.

RESEARCH POTENTIAL

Their exact age and cultural affiliation are essentially unstudied, and much could be learned from analysis of the artifacts themselves — such as compositional analysis, exact age, assemblage composition, intra-site details, and comparisons between sites. The sites would provide ethnic or cultural information not otherwise available regarding late Indian activity on the Northwestern Plains. The sites, therefore, are important.

SUMMARY

In summary, we continue to record and study these Native American sites and hope to hear of other localities as well as other ideas and experiences that people may have. Only through continued study will the history of the Historic period Indian activity in Wyoming be preserved.

REFERENCE CITED

State Protocol

2006 State Protocol between the Wyoming Bureau of Land Management State Director and the Wyoming State Historic Preservation Officer; Appendix D, Defined Non-Sites and Property Types Requiring No Formal Documentation, dated March 8, 2006. Available (3/1/2010) at wyoshpo.state.wy.us/Section106/pdf/AppendixD.pdf; also at www.blm.gov/pgdata/etc/medialib/blm/wy/programs/culturalprotocol.Par.7542.File.dat/2006app_d.pdf.

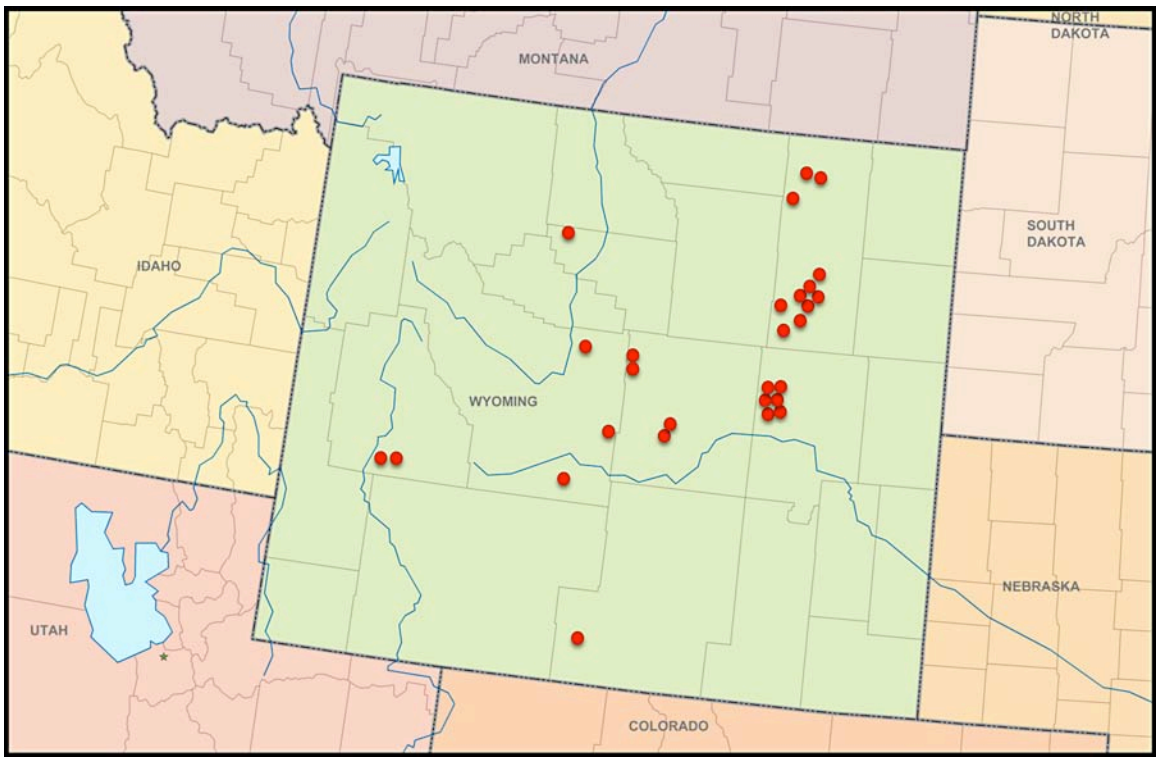

Figure 2. Strips-and-discs sites in Wyoming.

Figure 3. Flagged site IF6969-2 in southwestern Wyoming.

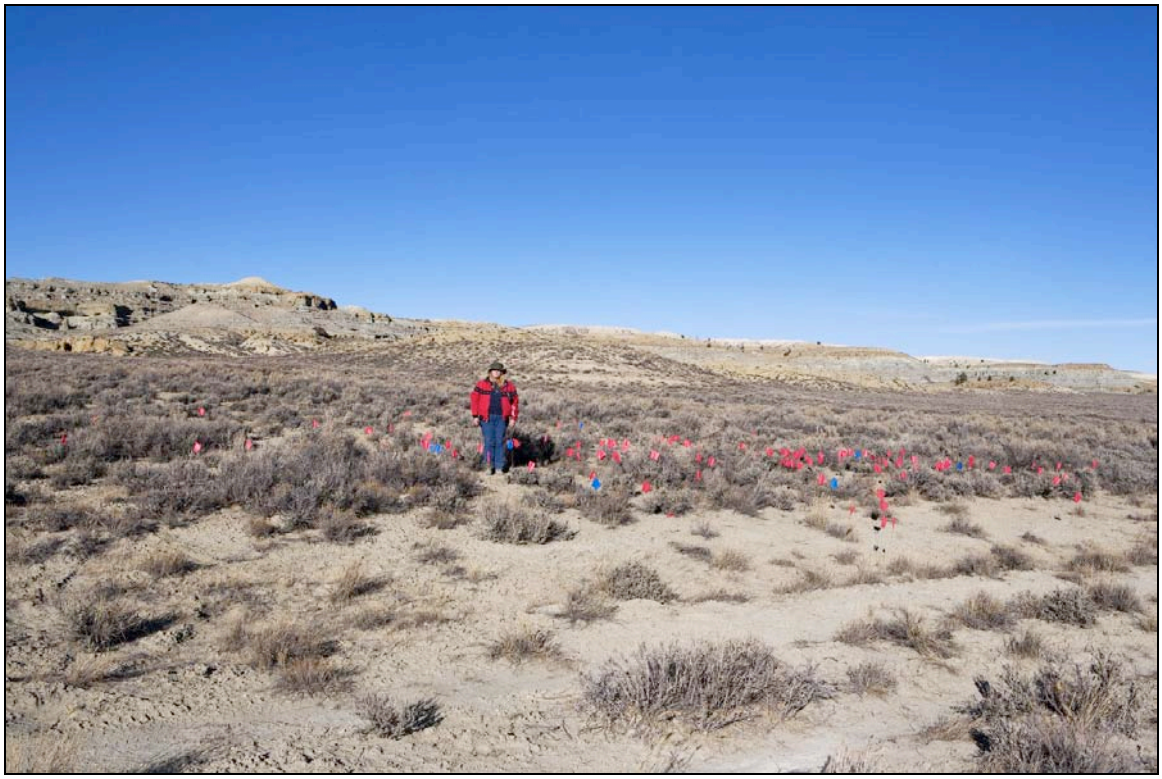

Figure 4. Flagged site IF6940-1 in southwestern Wyoming.

Figure 5. Flagged site IF6940-1 in southwestern Wyoming.

Figure 6. Flagged site 48CA3450 in northeastern Wyoming.

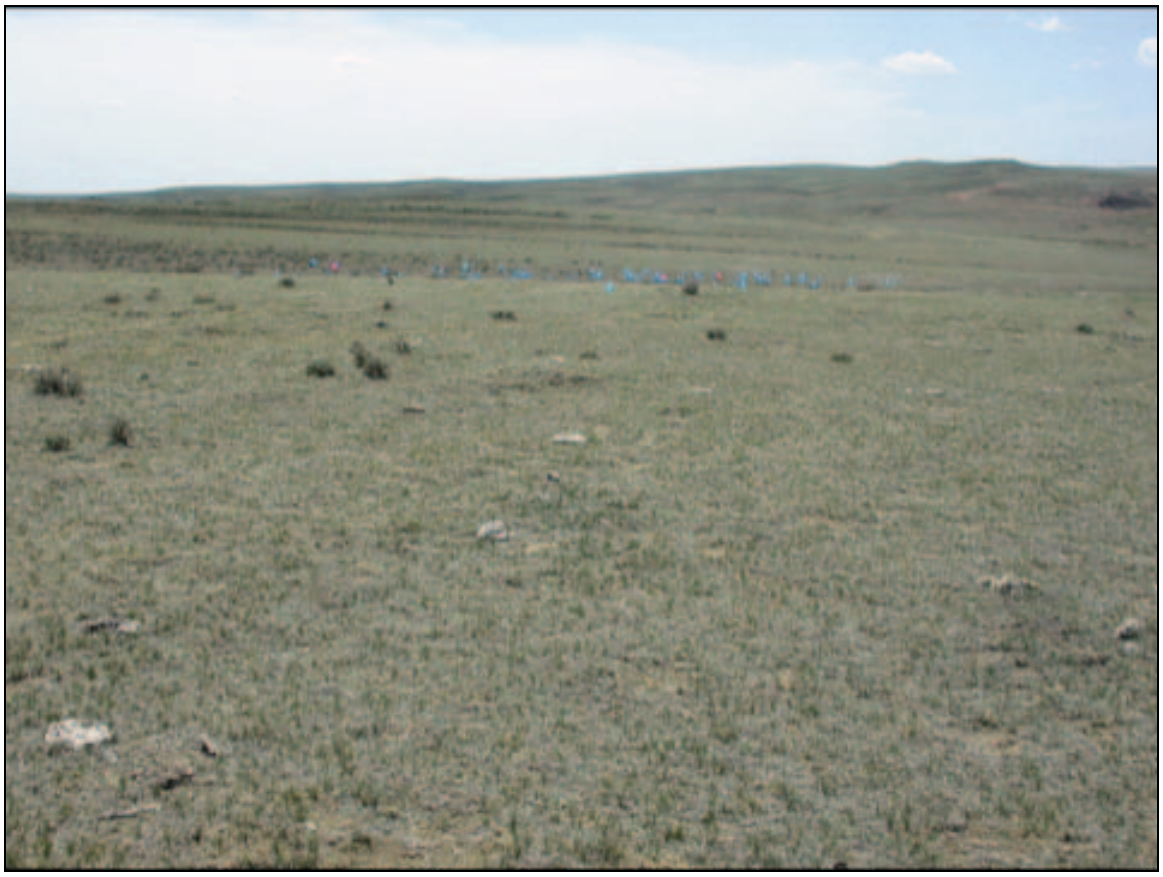

Figure 7. Flagged site 48CA4553 in northeastern Wyoming.

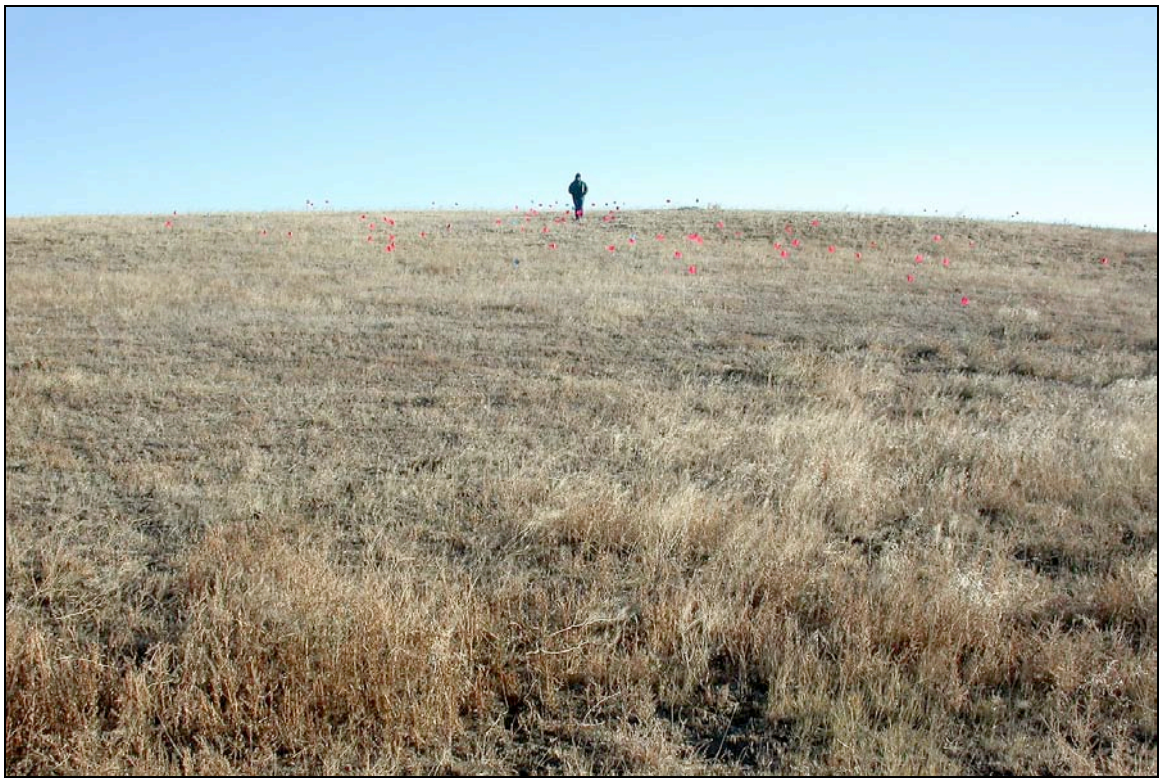

Figure 8. Flagged site 48CA4729 in northeastern Wyoming.

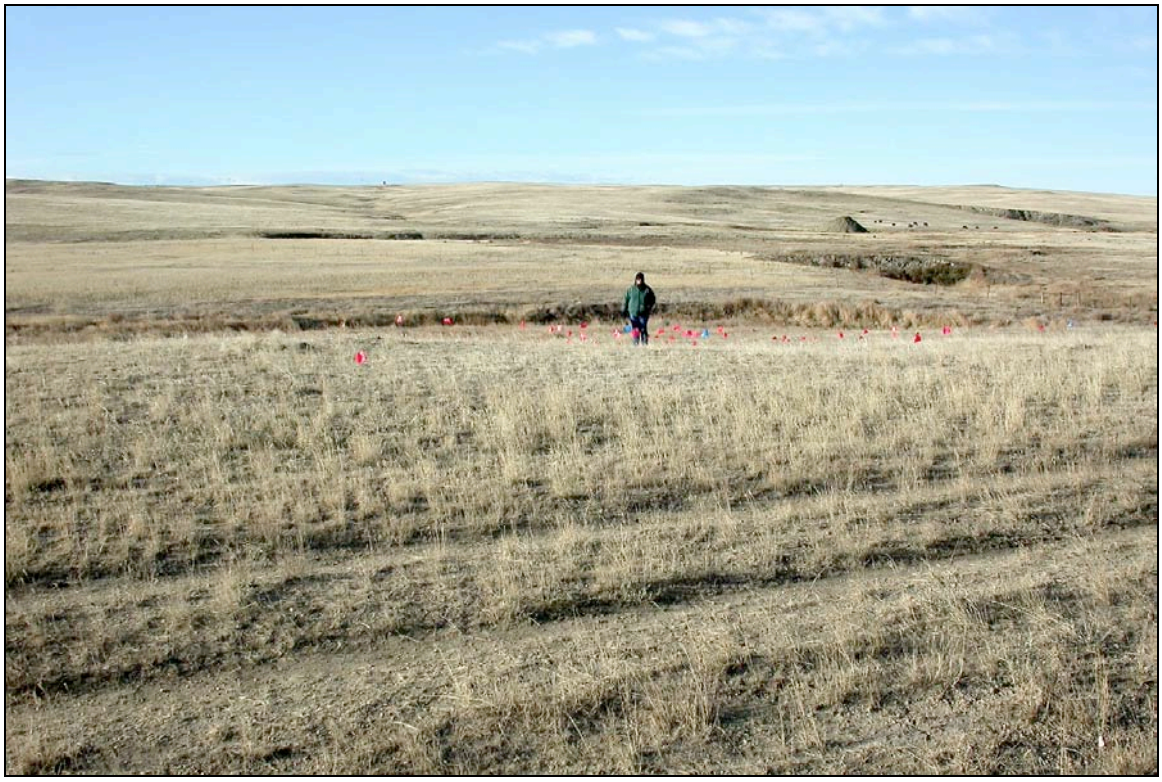

Figure 9. Flagged site 48CA4729 in northeastern Wyoming.

Figure 10. Flagged site 48NA2457 Cedar Ridge A in central Wyoming.

Figure 11. Flagged site IF6912-44 in central Wyoming.

Figure 12. Flagged site 48WA2171 in northwestern Wyoming.

Figure 13. 48WA2171, disc with seam fragment threaded through perforated hole.

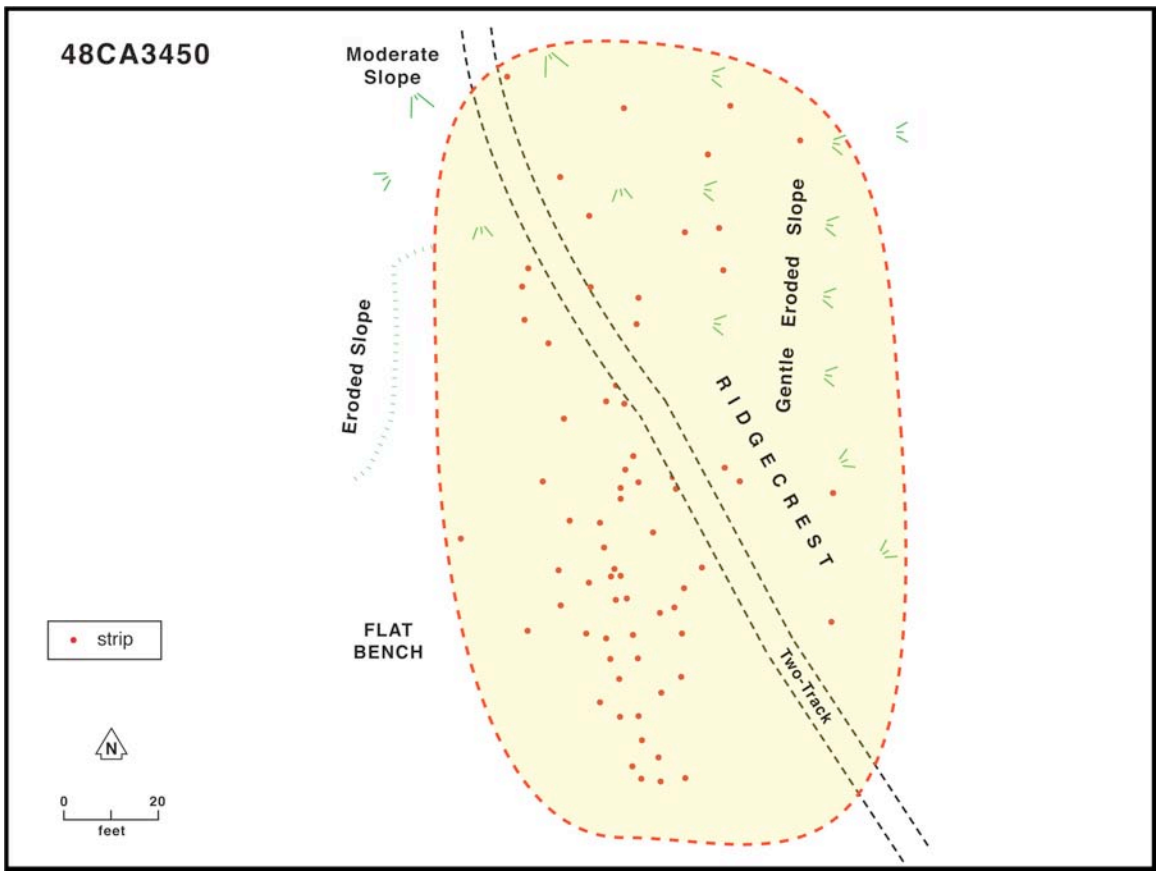

Figure 14. 48CA3450 site sketch, northeastern Wyoming.

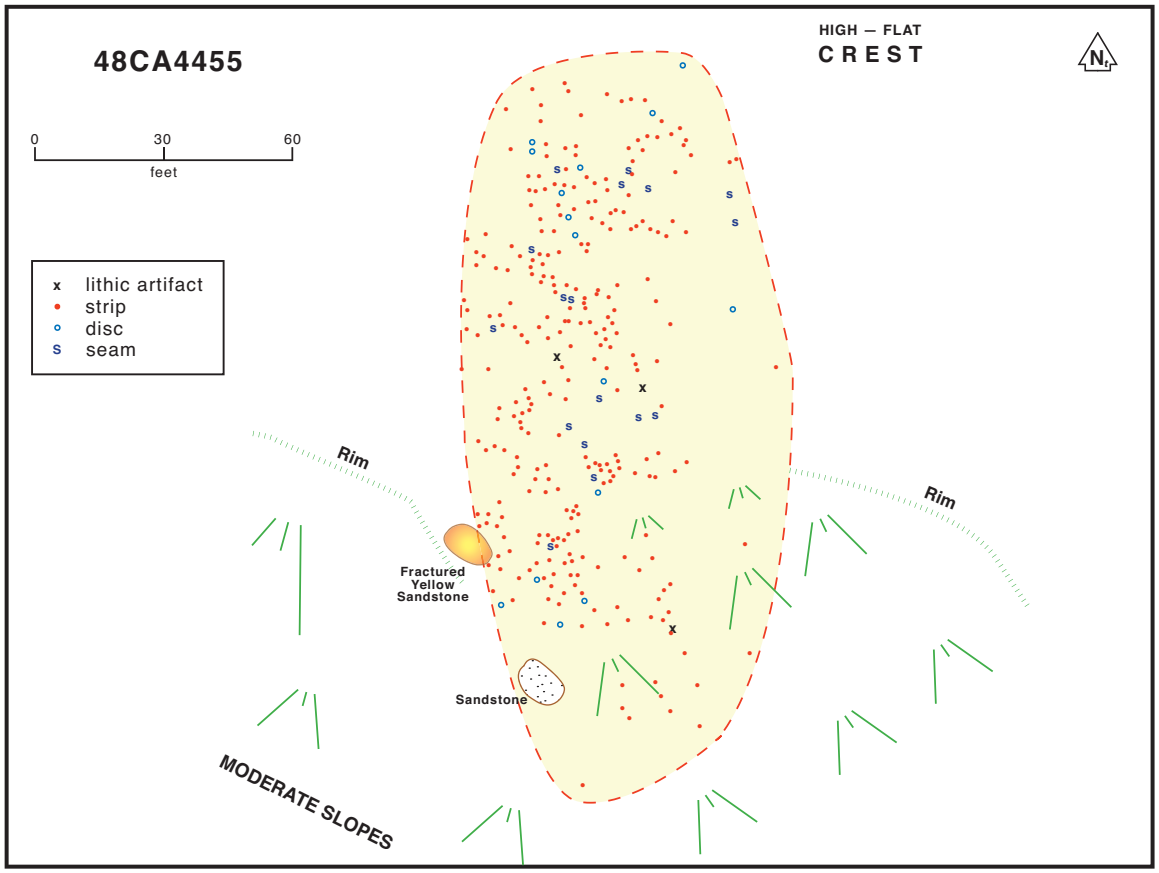

Figure 15. Site 48CA4455 site sketch, northeastern Wyoming.

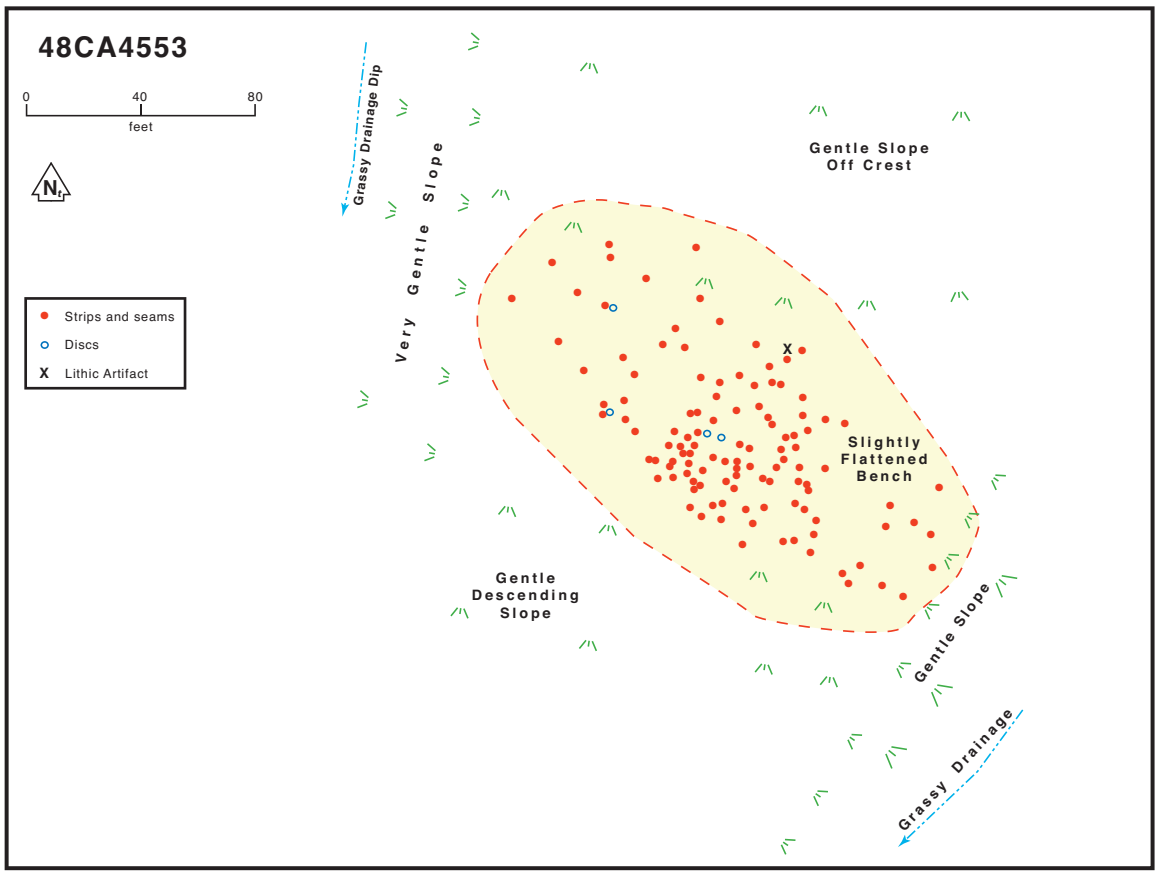

Figure 16. 48CA4553 site sketch, northeastern Wyoming.

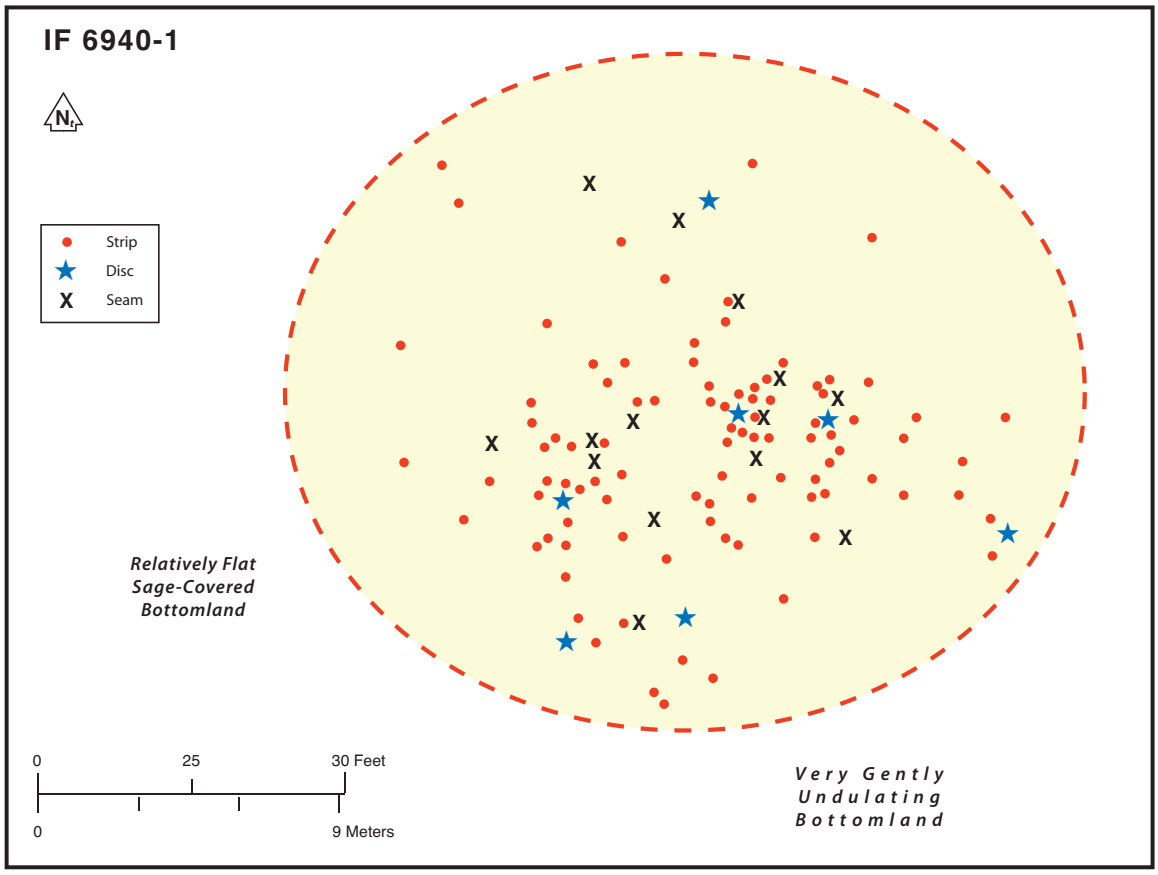

Figure 17. IF6940-1 site sketch, northeastern Wyoming.

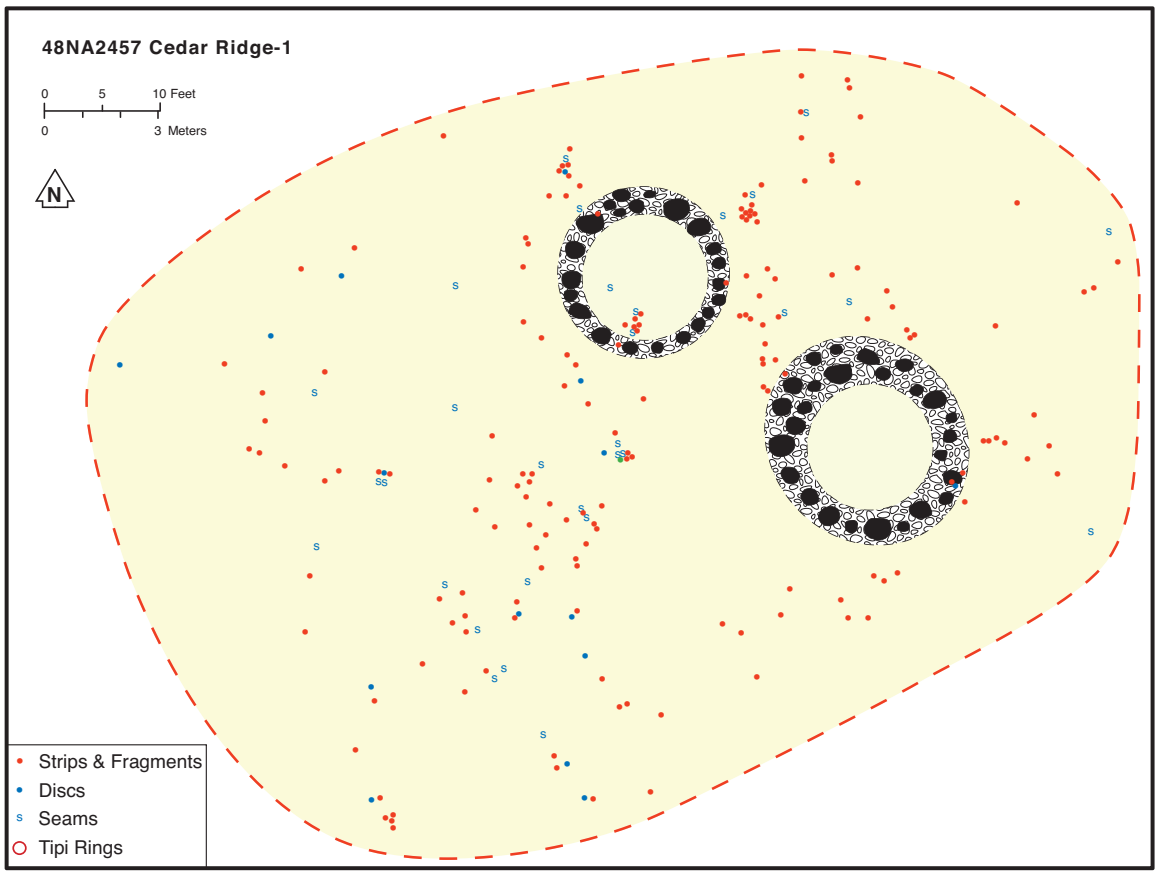

Figure 18. 48NA2457 Cedar Ridge-A site sketch, central Wyoming.

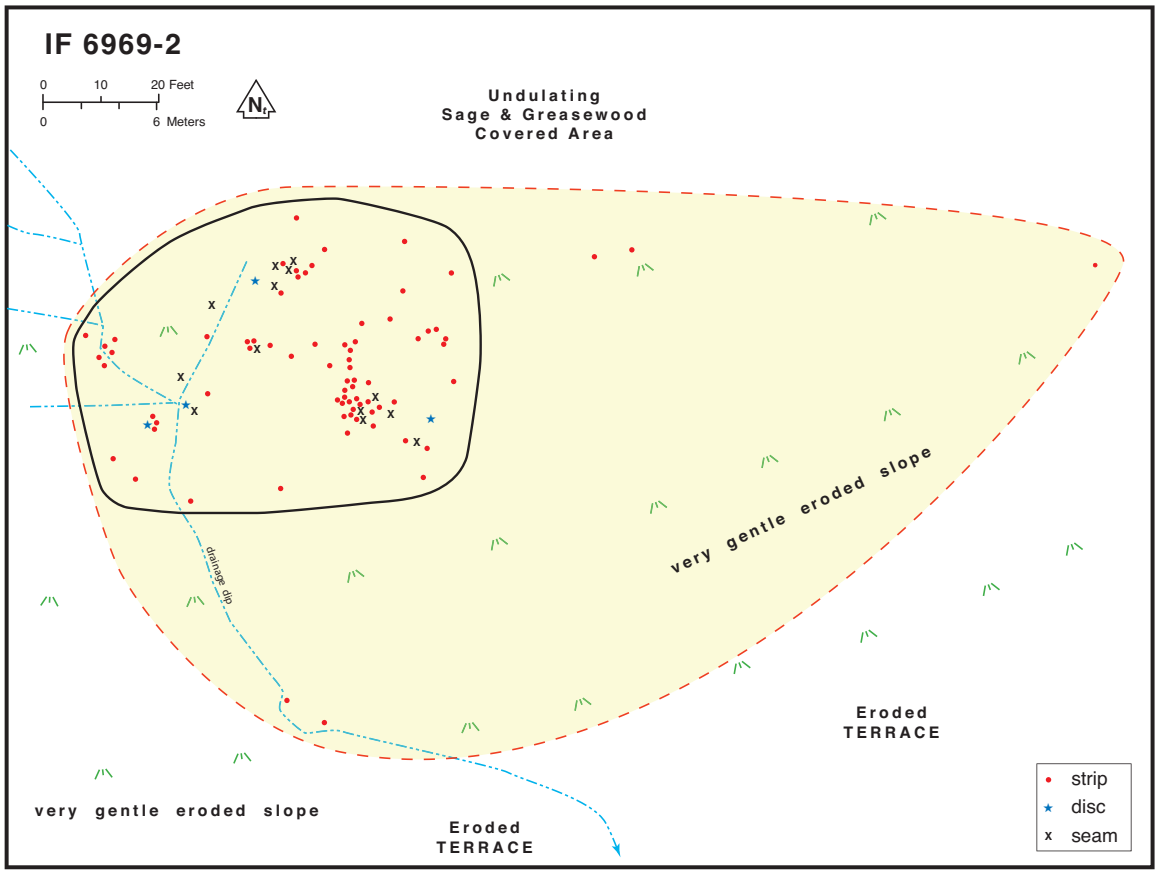

Figure 19. IF6969-2 site sketch, southwestern Wyoming.

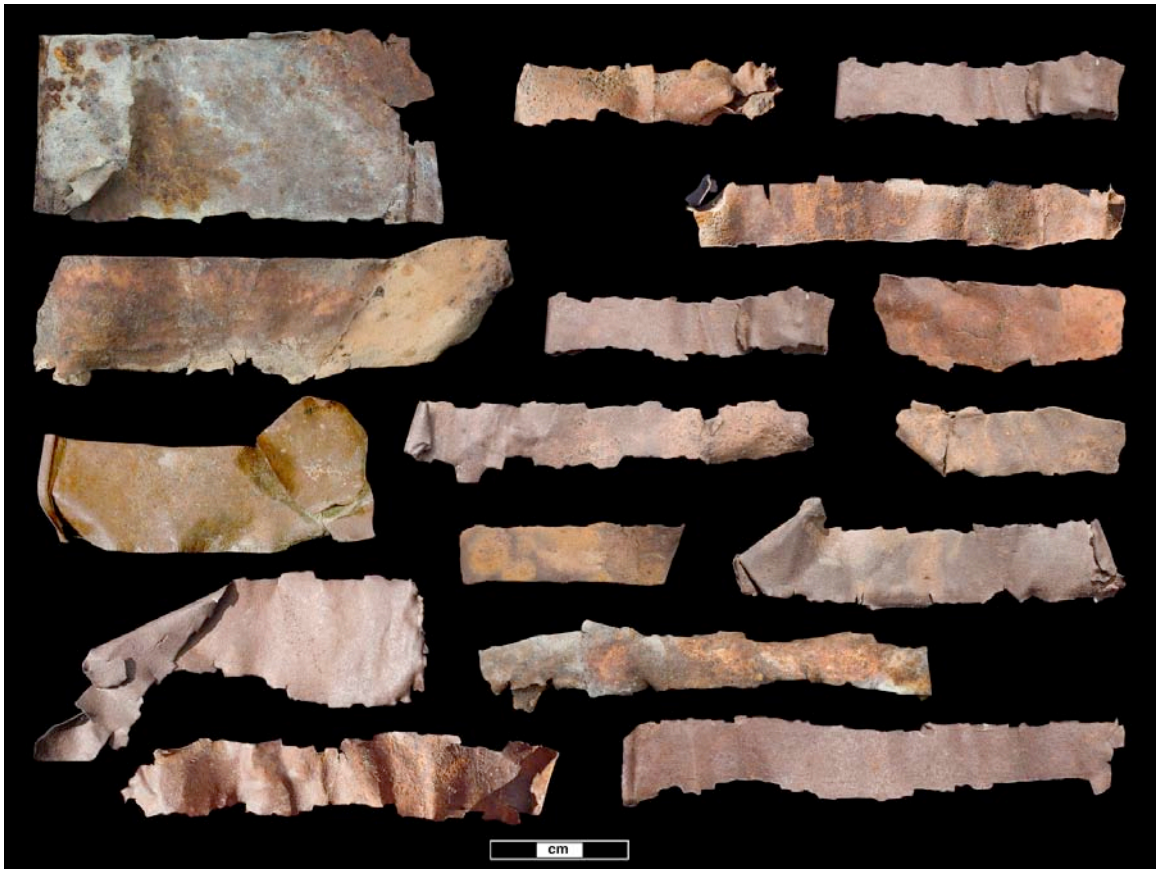

Figure 20. Strips and fragments.

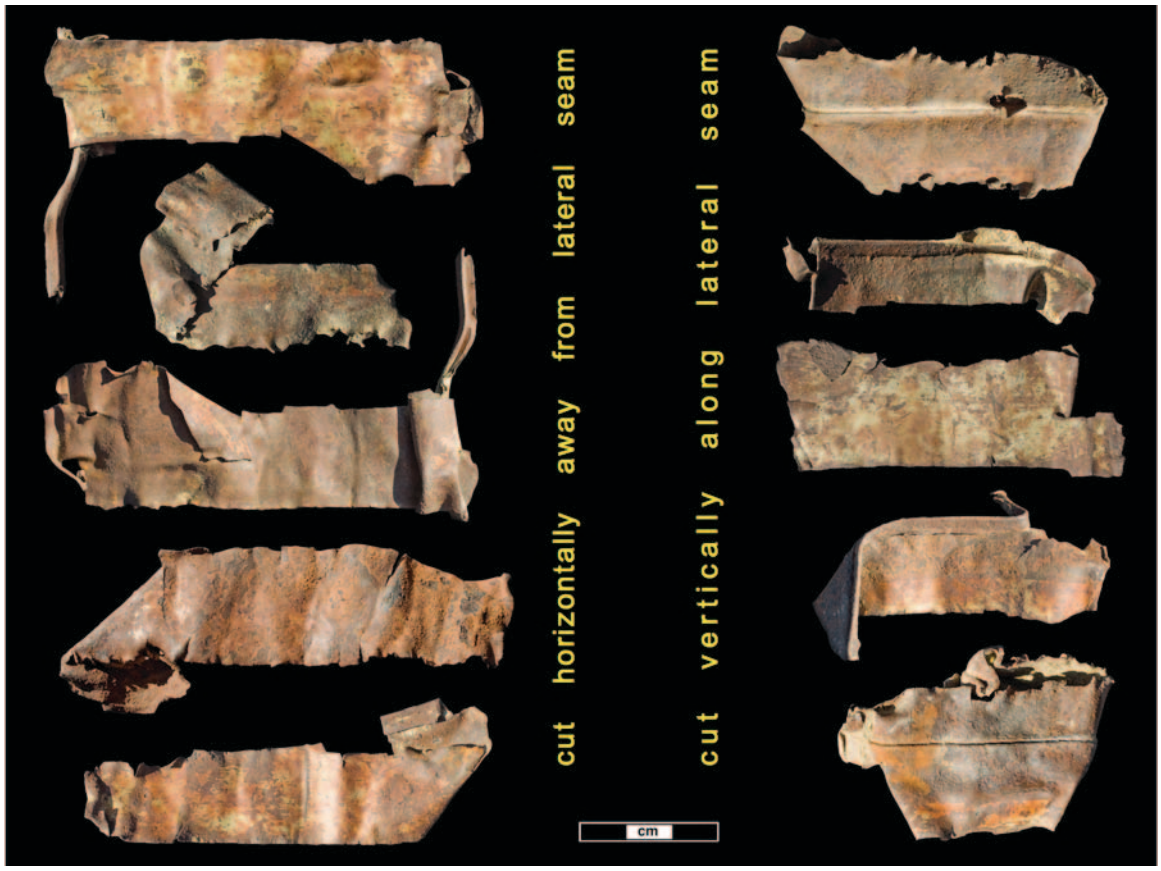

Figure 21. Strips with part of lateral seam still attached.

Figure 22. Strips with specific angular fold.

Figure 23. Bangle-beads, rolled at the top, tabs at the bottom, hung horizontally.

Figure 24. Discs. Yellow dots beneath double discs.

Figure 25. Discs with a patterned fold. Yellow dot beneath double discs.

Figure 26. Trimmed end seams.

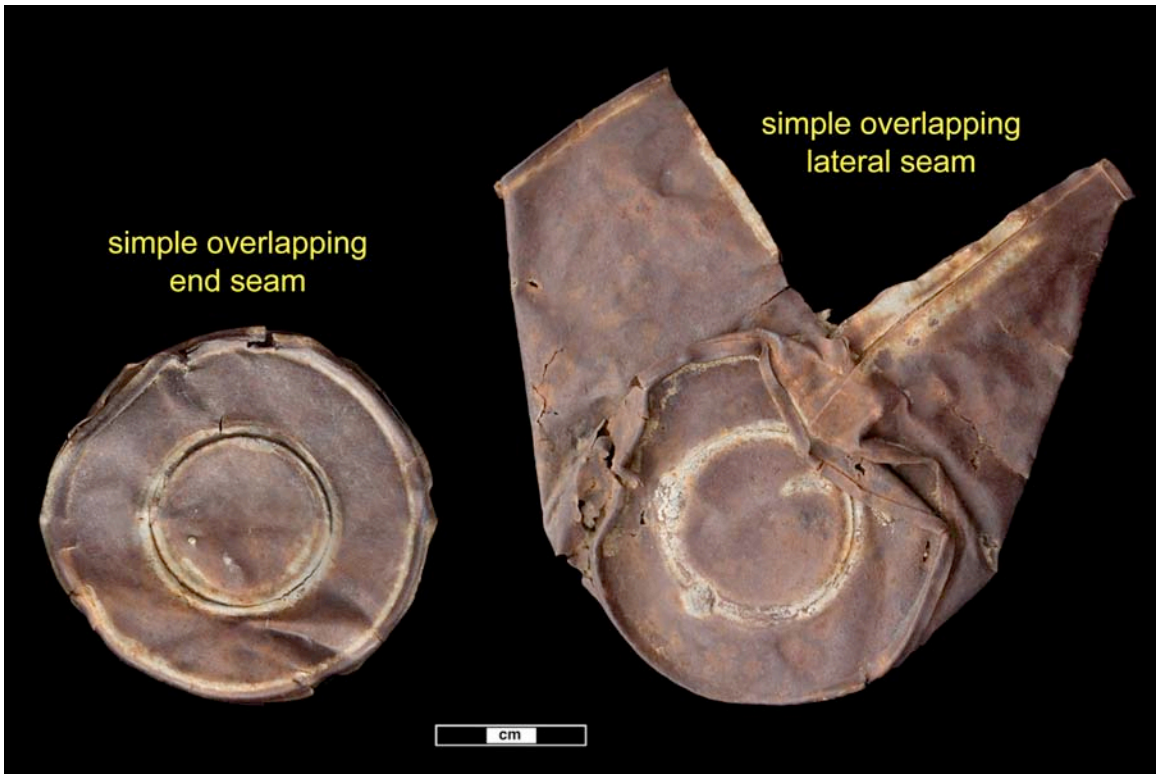

Figure 27. Early hole-in-top cans of milk-can construction with nonperforated discs (1.5″) and simple-overlap lateral seams, from a site in central Wyoming, for comparison.

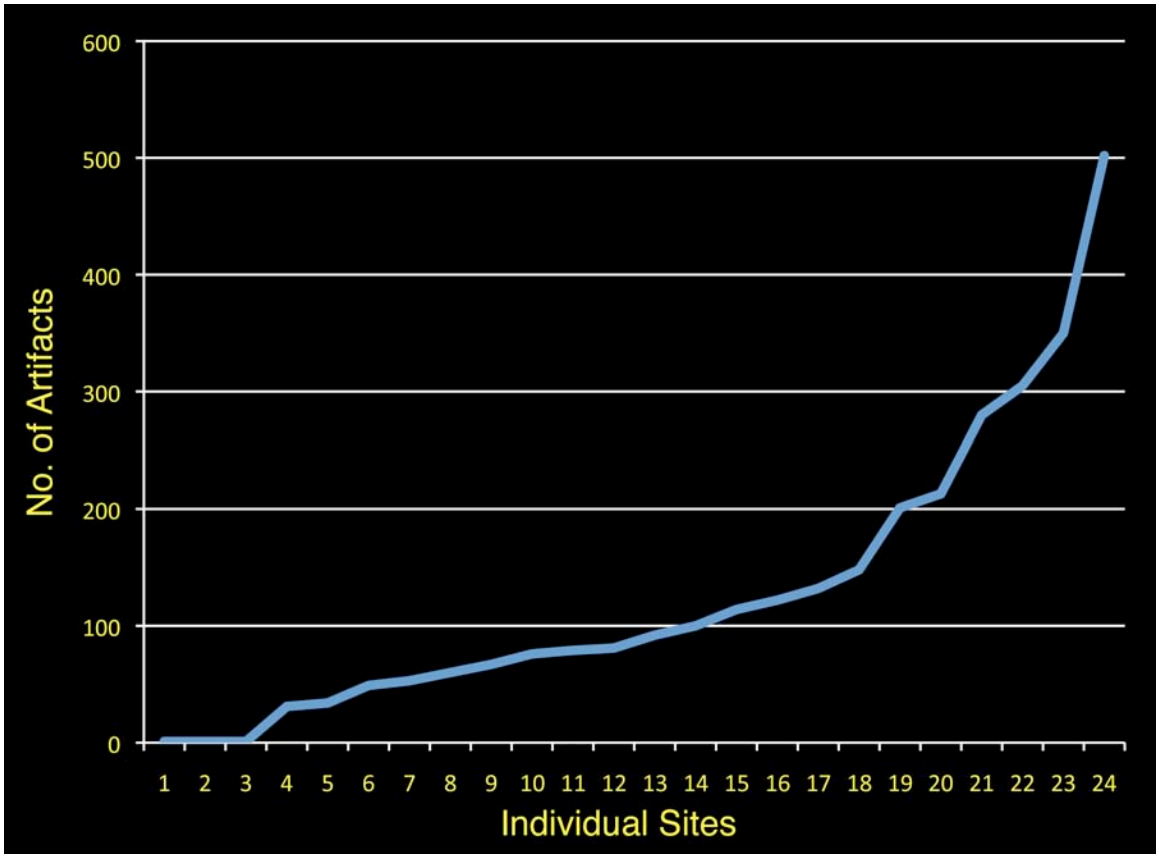

Figure 28. Strips-and-discs sites in Wyoming, number of artifacts per site.