TIN STRIPS & DISKS: Indian Modification and Reuse of Early Tin Cans

by

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For several years we've been looking at a historic site type in which it appears that Native Americans were processing early tin cans, for some unknown purpose, with sites scattered across Wyoming and probably occurring at least into southern Montana. Sites are represented by dense scatters of small cut pieces of hole-in-top tin cans and are easily overlooked. In general the sites are specialized activity stations and contain only manufacture by-products consisting of cut tin strips, nonperforated disks, and a few trimmed end seams (Figure 1), and otherwise there are usually no other associated artifacts — only these small cut pieces of tin. The 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. The site marked by the star in eastern Wyoming has not yet been inventoried and will increase the artifact count.

Site recording by other archeologists in Wyoming suffers from two problems — difficulty of recognition, and agency regulations that restrict their recording in Wyoming (State Protocol 2006).

Sites are difficult to recognize and to the untrained eye look like normal sparse remains of rotted tin cans. The small 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 run several tests on this. Inspection results vary according to amount of time and attention at the site, inspection methods, and amount of surface sand or vegetative cover — as is always the case. Intensive inspection during a normal survey will record up to a maximum of about 30% of the total artifacts. Super-intensive mapping, with criss-crossing 3' transects will inventory up to 90% of total artifacts on ideal surfaces, but usually much 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. This should be taken into account when doing syntheses.

Our present sample is limited, considering the amount of work being done across Wyoming with essentially no recording of these sites, and we would guess that many

thousands more 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 in open areas of 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

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 focused strictly 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, wind dispersal, and sheetwash erosion. Thus, the original concentration of materials on a site was smaller and denser than what we now observe (e.g., Figure 27), as is probably universal for all kinds of sites.

In this graph showing the number of artifacts per site (Figure 3), three sites contain only one item, and the remainder range fairly evenly between 30 and 500 items per site with no obvious preference for size. This indicates 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. Thus, all site attributes are culturally controlled according to group size and amount of processing, and do not represent some 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 disks, and trimmed 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 milk cans with overlapping lateral seams are the only cans found so far in Wyoming with

nonperforated disks of this consistent 1½"size. Shown in Figure 4 are examples of what at least some of the original cans looked like with the simple-overlap lateral seam and the nonperforated filler disk. Most processed can pieces are crumpled from subsequent animal trampling. There are almost never any other historic artifacts or indications of cultural features or deposits (except tipi rings, mentioned below). There usually are no clear indications of cultural use or additional modification of items 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 (examples in Figure 5), consistently producing a ¼-inch wide strip along the seam.

The body was opened up and cut horizontally into narrow strips mostly about ½" to 1¼" inches wide (Figure 6). Some are very evenly cut, some are serrated, and some are very crude, depending on the site. Some examples in Figure 6 show very even cutting, presumably with shears. Strips constitute the bulk of artifacts at all sites (except localities containing only one disk). As we say, most strips are cut horizontally, or at right angles to the lateral seam, and some seam remnants are still present (left side in Figure 7).

In a couple of sites, some strips are cut lengthwise to the can, with portions of the lateral seam still present (examples on right side in Figure 8). 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 disk is always 1½ inches in diameter and never perforated or soldered (Figure 8) — which immediately identifies these sites and distinguishes them from all other sites with cans. Some disks are single thickness, and others are double disks [indicated in Figure 8 by yellow dots], with the disks stamped out together, which again distinguishes these sites from all others. The disk was removed from the can end, and the remainder of the end — a cleanly cut circular piece about 2½ to 3 inches 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 disks, 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 disks. Figure 9 shows examples of strips with a simple angular fold, which could be natural or accidental, but we have hundreds that are folded in exactly this way.

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 10). Keep in mind that these are the discarded rejects and not the finished pieces that were taken away for use.

Folded disks may also have been intended for this same kind of decorative use, but that use is questionable. This is for both single and double disks (double at the bottom of Figure 11 with the yellow dot). Dozens of disks have one edge folded over about 25-30% (Figure 11) as if they were to be strung in the same horizontal way as the tabbed bangle beads. Most sites also have disks folded about 50%, 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 several possible unfinished tinklers made on disks — either with intersecting partial

folds that produce a wide triangular shape, or the common rolled conical form, but so far we have no finished conical tinklers, either the short or longer varieties.

We recently recorded a new site in northwestern Wyoming, and found an unusual disk (Figure 12). A carefully trimmed end seam was threaded through a small hole made with a knife, and was bent over, much like a shield design in rock art. It certainly 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 going back and reevaluating those relationships.

Associations

As a result, we find a correspondence higher than would be expected by chance of tipi rings and stone artifacts. 25% of the total sites have rings either on-site or adjacent, and 46% of the sites contain flakes or stone arrowpoints [*includes 2 new sites*]. Although we still question cultural association, the numbers are causing us to reevaluate the possibility.

For instance — 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 disks are at that location, the likelihood for stone artifacts jumps to 46%, so that one would expect flakes and tools on half the strips-and-disks sites and relatively rare elsewhere. Equally impressive are tipi rings, where randomly selected areas on the landscape essentially would not be likely to have rings at all, but if strips and disks are present, there would be a 25% chance that recognizable tipi rings would be on-site or adjacent to the strips-and-disks processing area. The numbers suggest a significant relationship that, at least at first, was 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. People also could have been making such things as tinklers, knives, arrowpoints, conchos, decoration for clothing or horse trappings, decorations on knives or spears, or strip wrappings on knife handles, lances, 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 from pieces of tin cans include arrowpoints, tinklers, knives, a fine saw, and other objects.

Affiliation

Although cultural affiliation is uncertain, we have considered dozens of possibilities — everything that has ever been suggested to us.

By far the most common suggestion (or insistence) is that the sites are normal herder camps at which some presently unimaginable activity must have occurred. The cut tin pieces, however, are never found on normal herder camps or other early historic 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 they 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.
We continue to look at ethnohistoric sources and so far have found none that reference these kinds of sites or activities. Native American elders and local ranchers that we have talked to have no idea what these things are.

Dating

Can technology shows that these cans date no earlier than 1847 and no later than about 1900. The nonperforated disks and simple-overlap lateral seams suggest a time early within this period, while possible interlocking lateral seams suggest a time later within the period. No analysis has ever been done other than our initial field assessment, but future study could probably date the materials more closely, if collected. It is our opinion that the sites represent a very short time span.

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

Final Statement

In Summary, we continue to record and study these sites and hope to hear of other localities as well as other ideas and experiences that people may have. Sites have been found just south of the Montana state line and almost certainly occur across at least the southern part of the state. Now that people know what to look for, we are hopeful that new sites will turn up.

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.

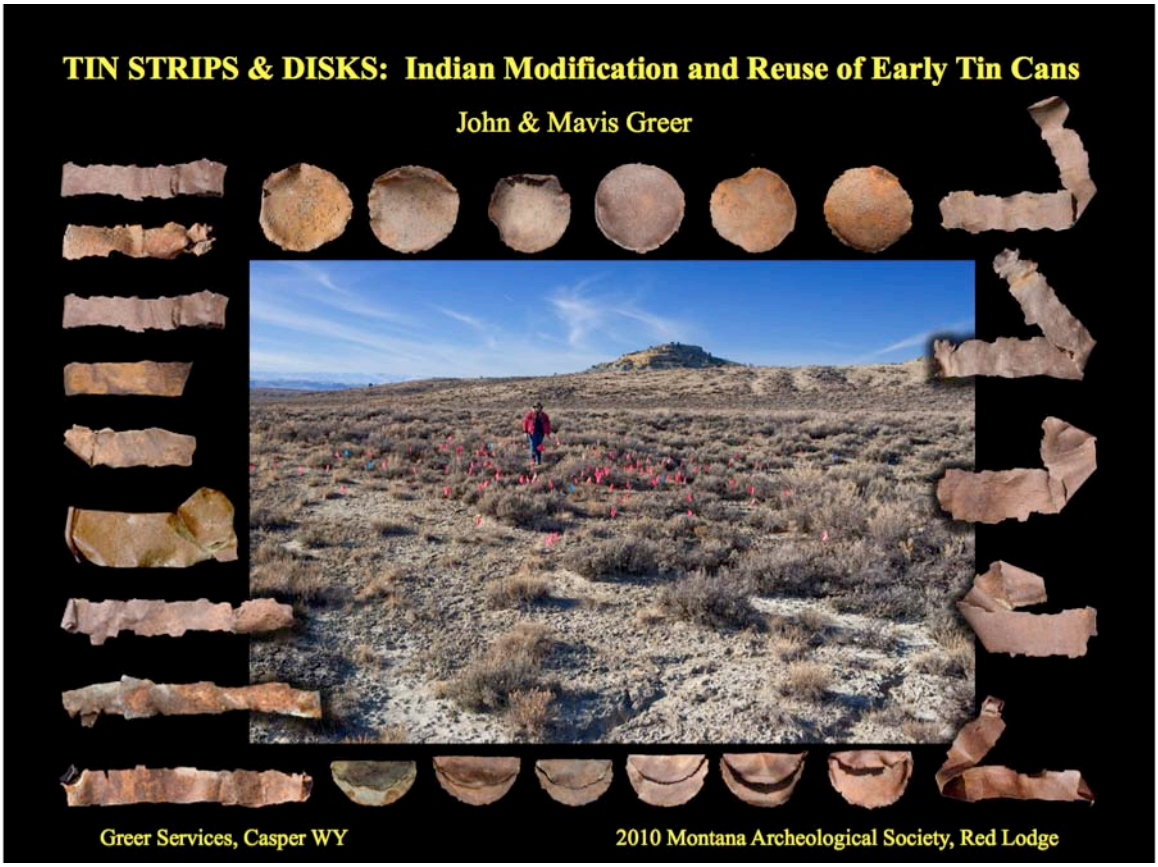

Figure 1. Site IF6940-1 in southwestern Wyoming.

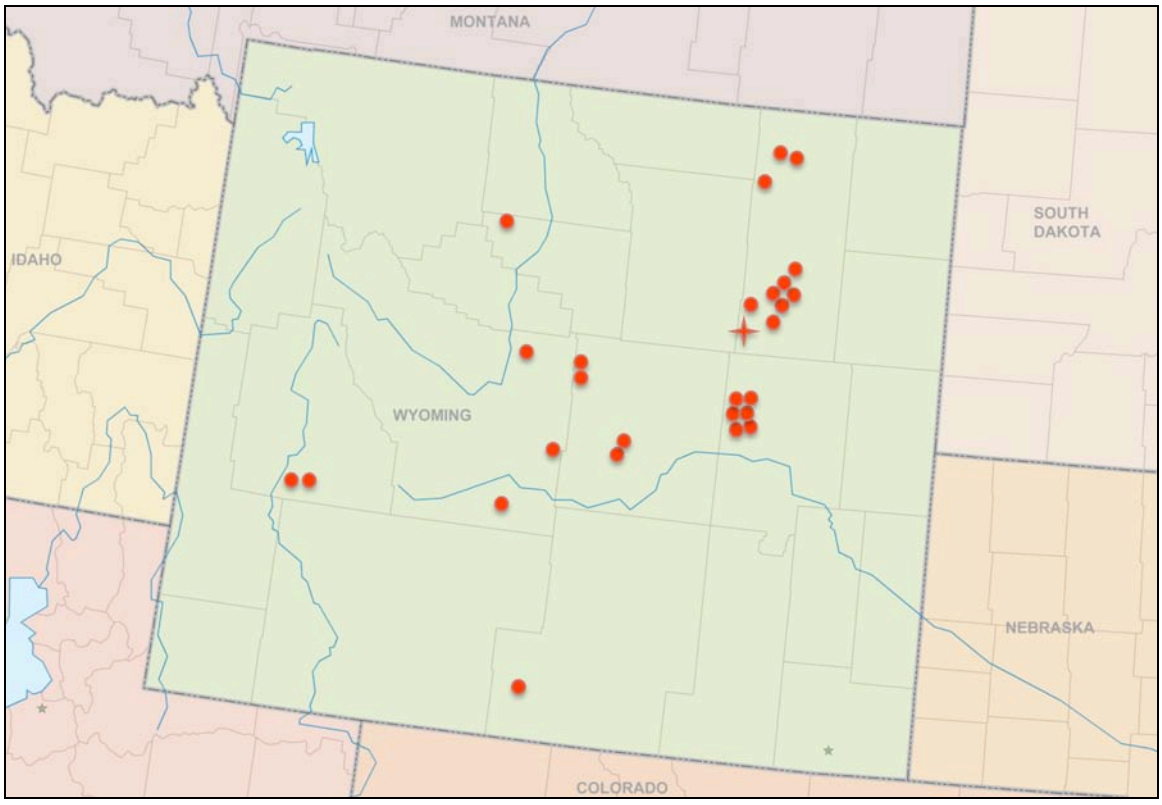

Figure 2. Strips-and-disks sites in Wyoming.

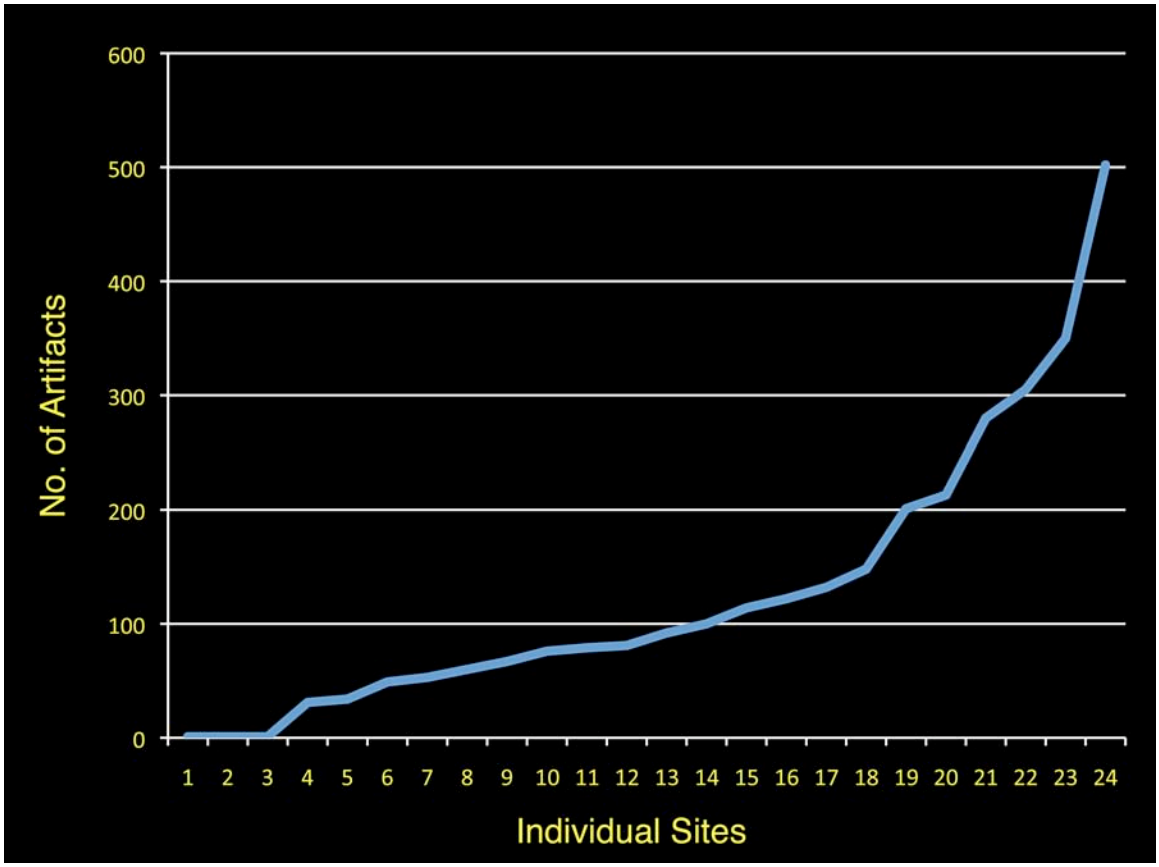

Figure 3. Number of artifacts per site. Wyoming sites, as of October 2008.

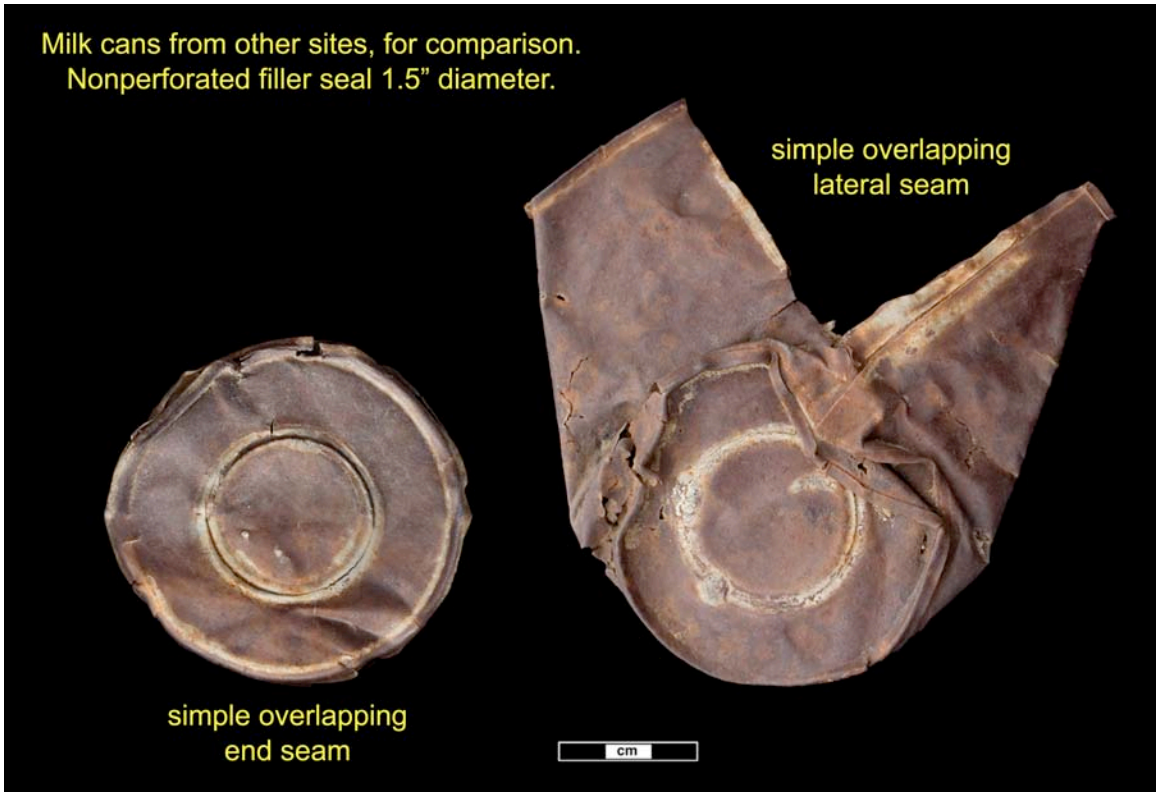

Figure 4. Non-S&D site in central Wyoming

Figure 5. Trimmed end seams.

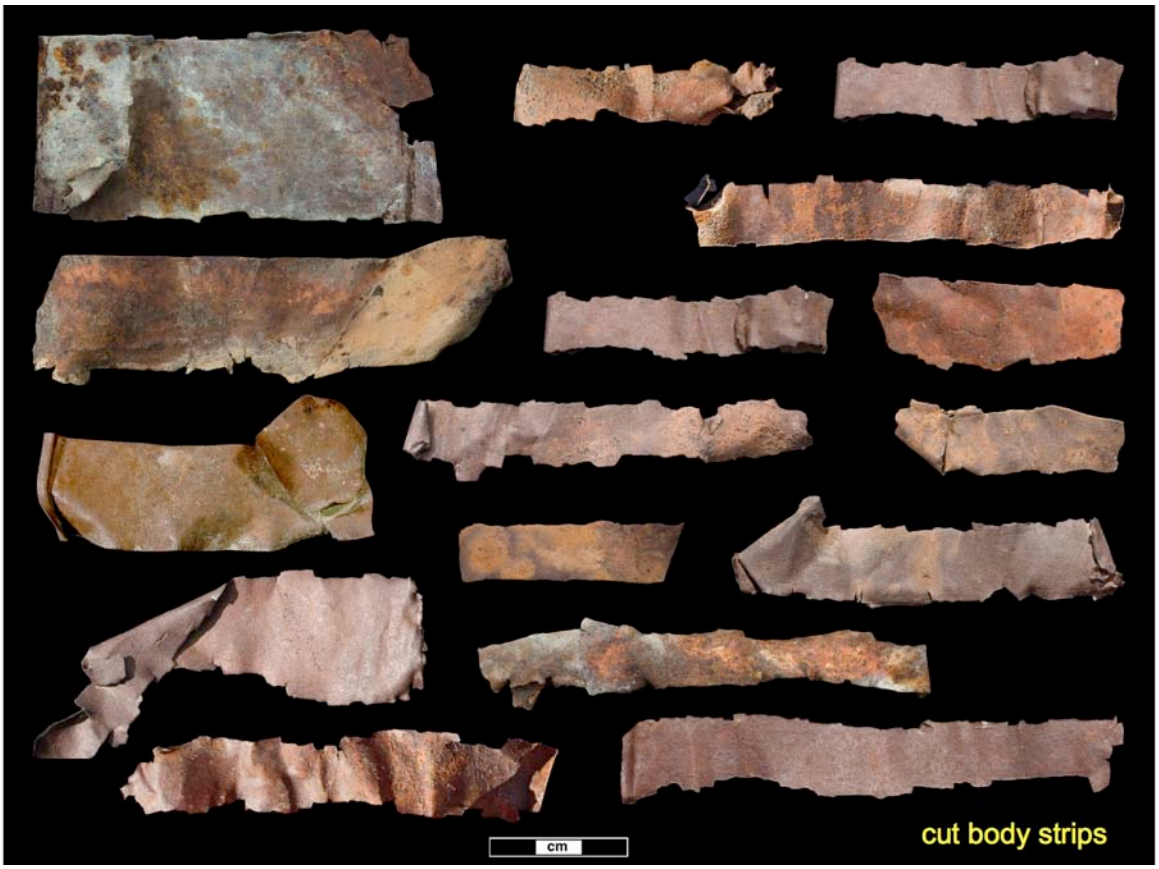

Figure 6. Horizontally cut strips.

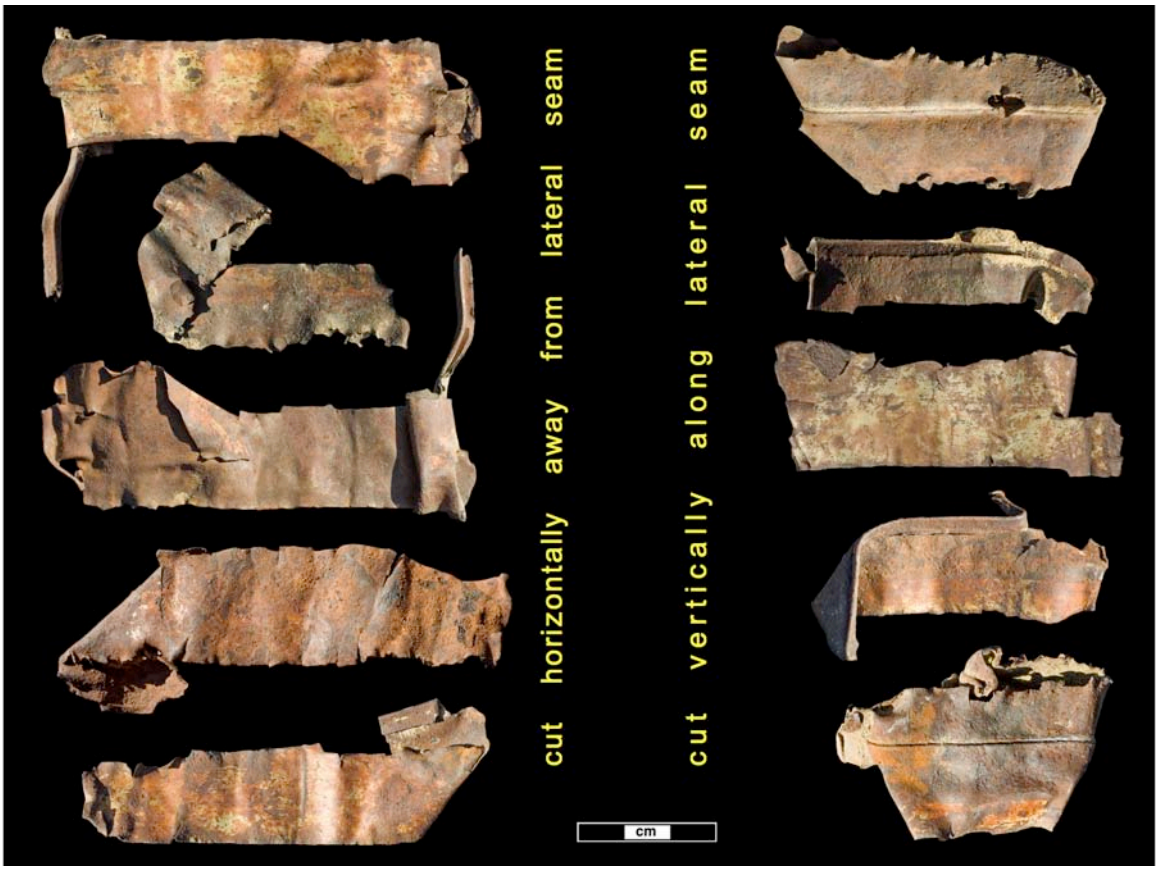

Figure 7. Cut strips with attached lateral seam. Horizontal left, vertical right.

Figure 8. Disks. Double disks marked with yellow dot.

Figure 9. Strips with angular fold.

Figure 10. Strips fragments with folded to rolled upper edge and tabbed lower edge.

Figure 11. Folded disks. Double disk at bottom-center with yellow dot.

Figure 12,a. 48WA2171, disc with seam fragment threaded through hole perforated with a knife or awl.

Figure 12, b. Site 48WA2171 in northwestern Wyoming.

Figure 13. Site 48CA3450 in northeastern Wyoming.

Figure 14. Site IF6940-1 in southwestern Wyoming.

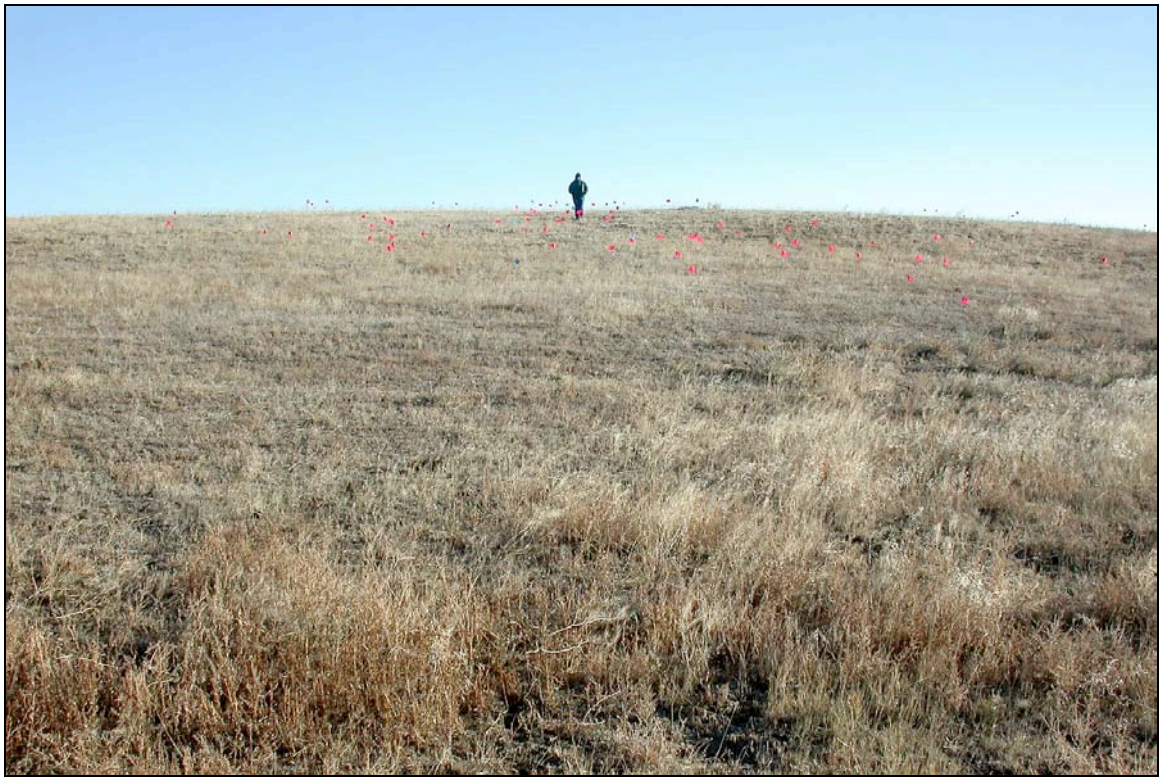

Figure 15. Site 48CA4729 in northeastern Wyoming.

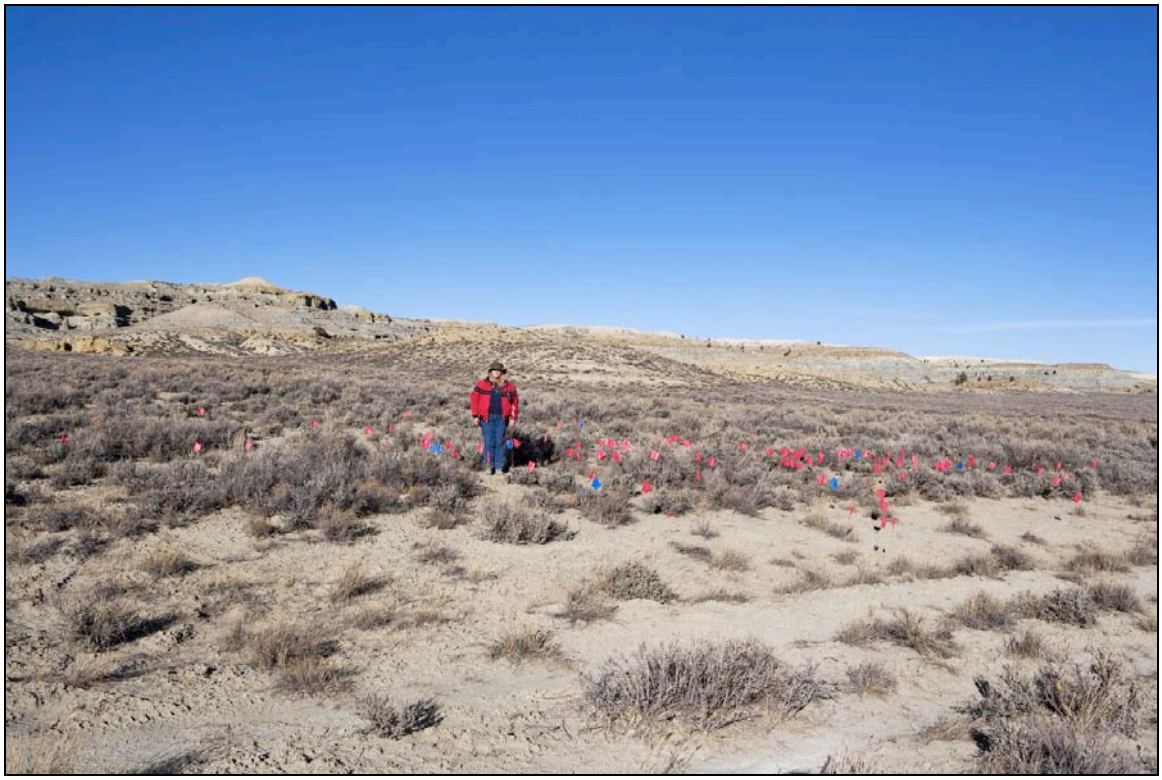

Figure 16. Site IF6940-1 in southwestern Wyoming.

Figure 17.

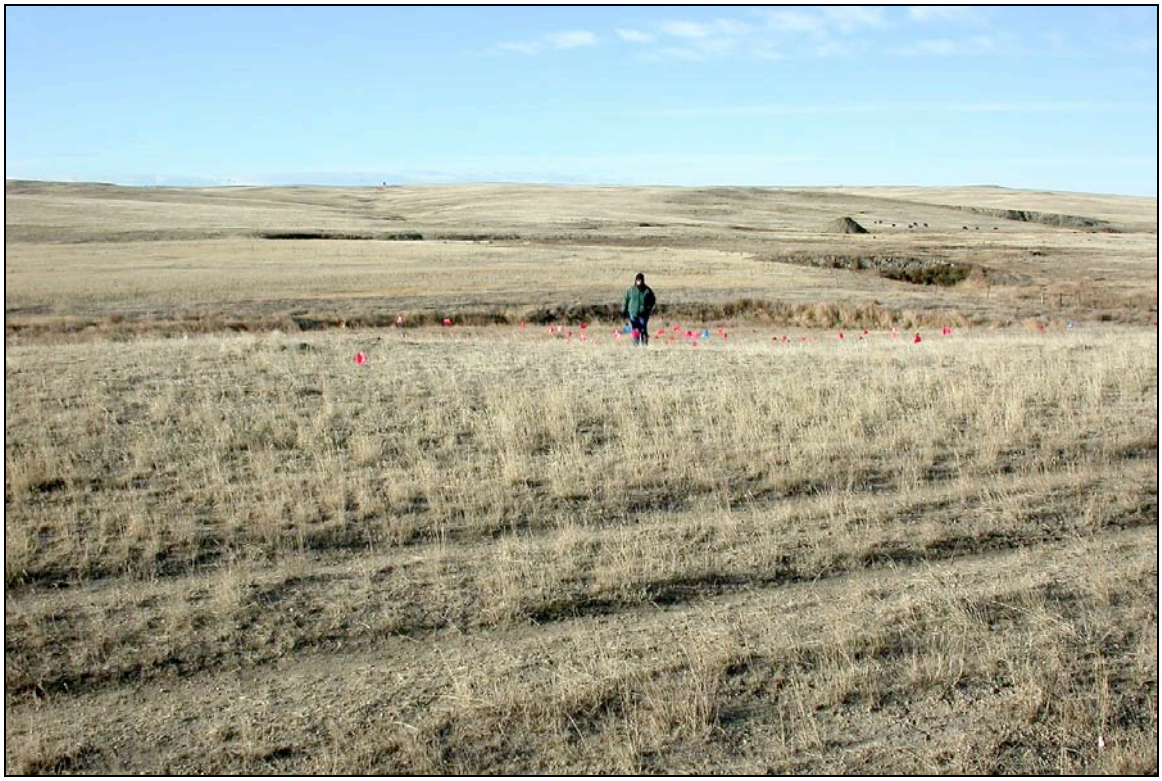

Figure 18. Site 48CA4729 in northeastern Wyoming.

Figure 19. Site IF6969-2 in southwestern Wyoming.

Figure 20. Site IF6912-44 in central Wyoming.

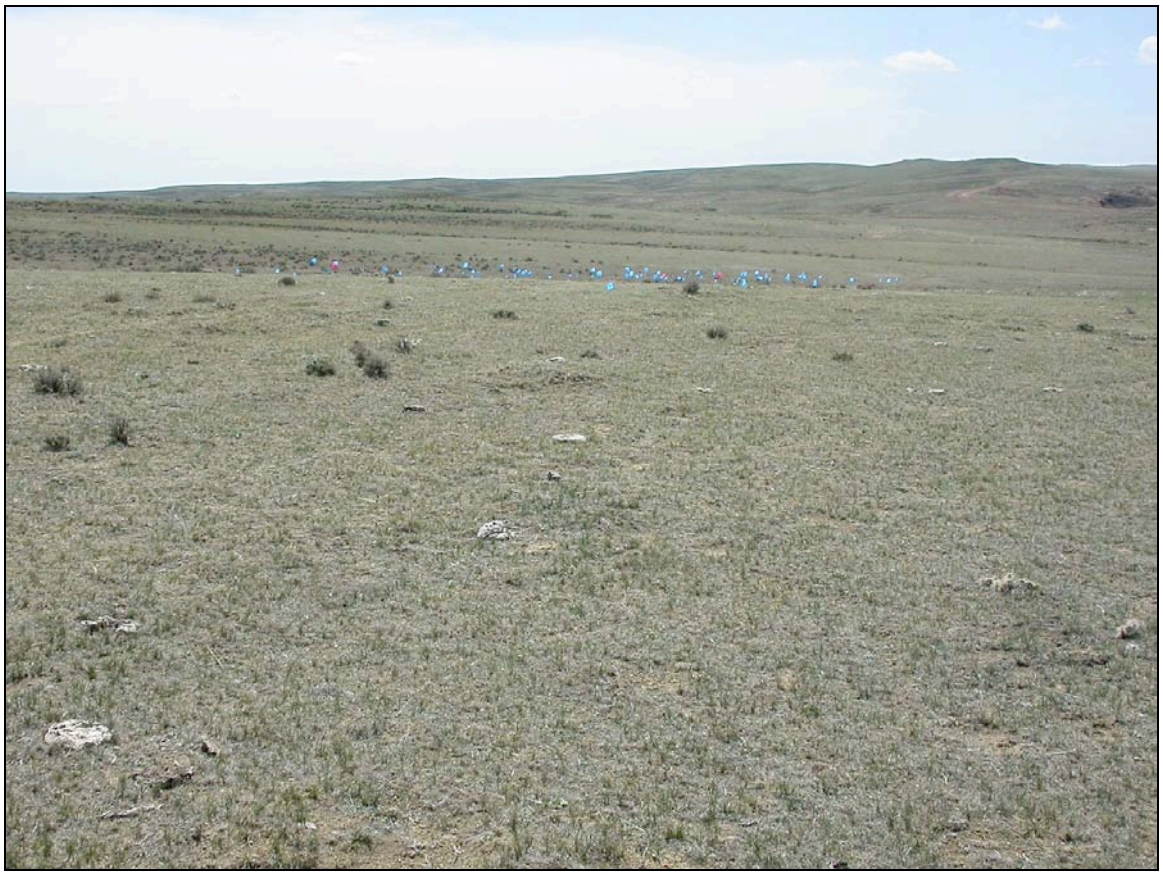

Figure 21. Site 48CA4553 in northeastern Wyoming.

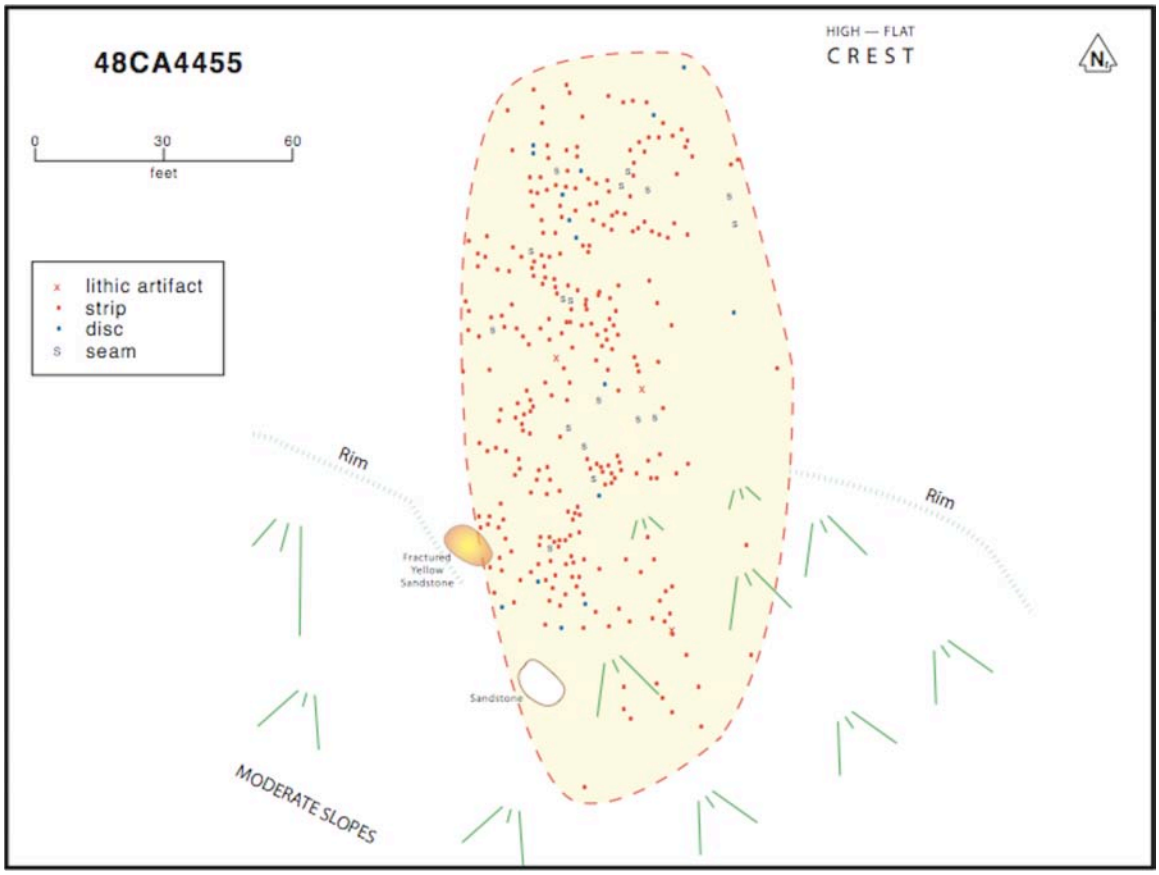

Figure 22. Site 48CA4455 site sketch, northeastern Wyoming.

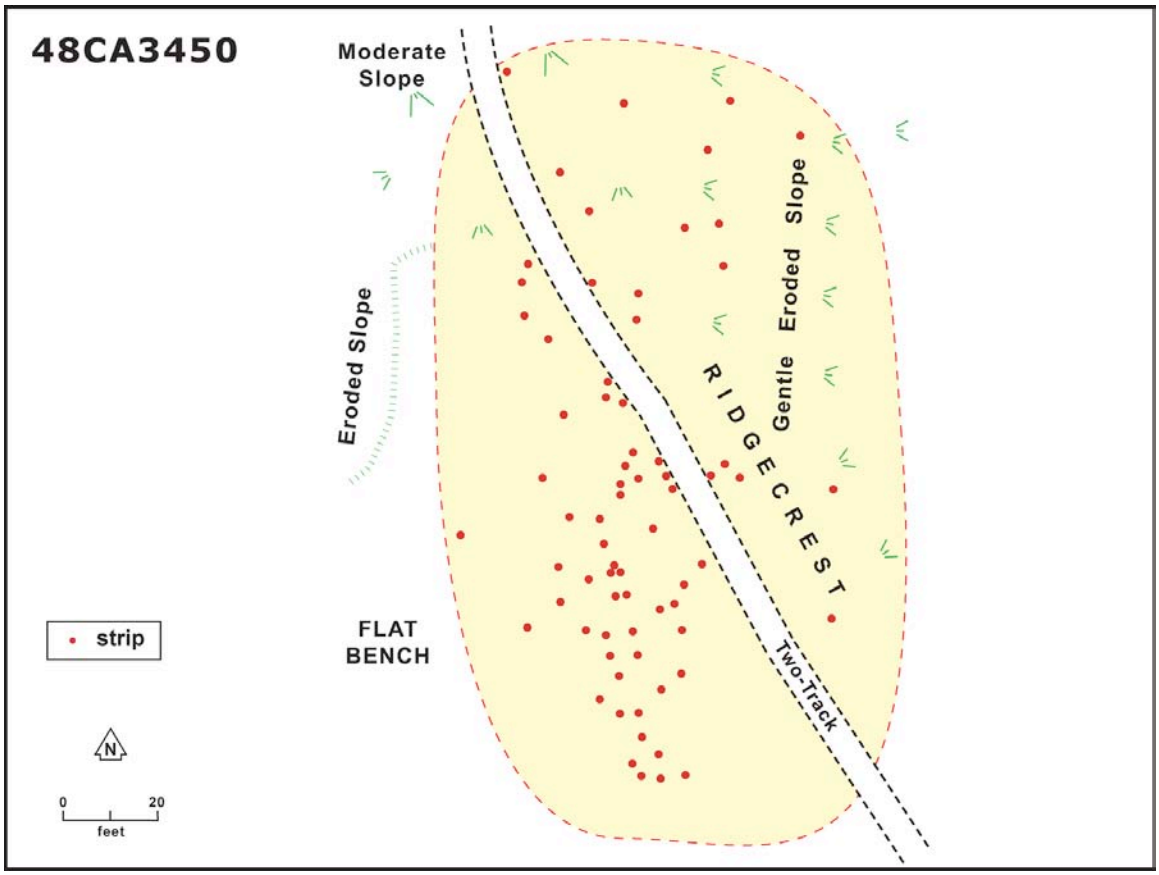

Figure 23. 48CA3450 site sketch, northeastern Wyoming.

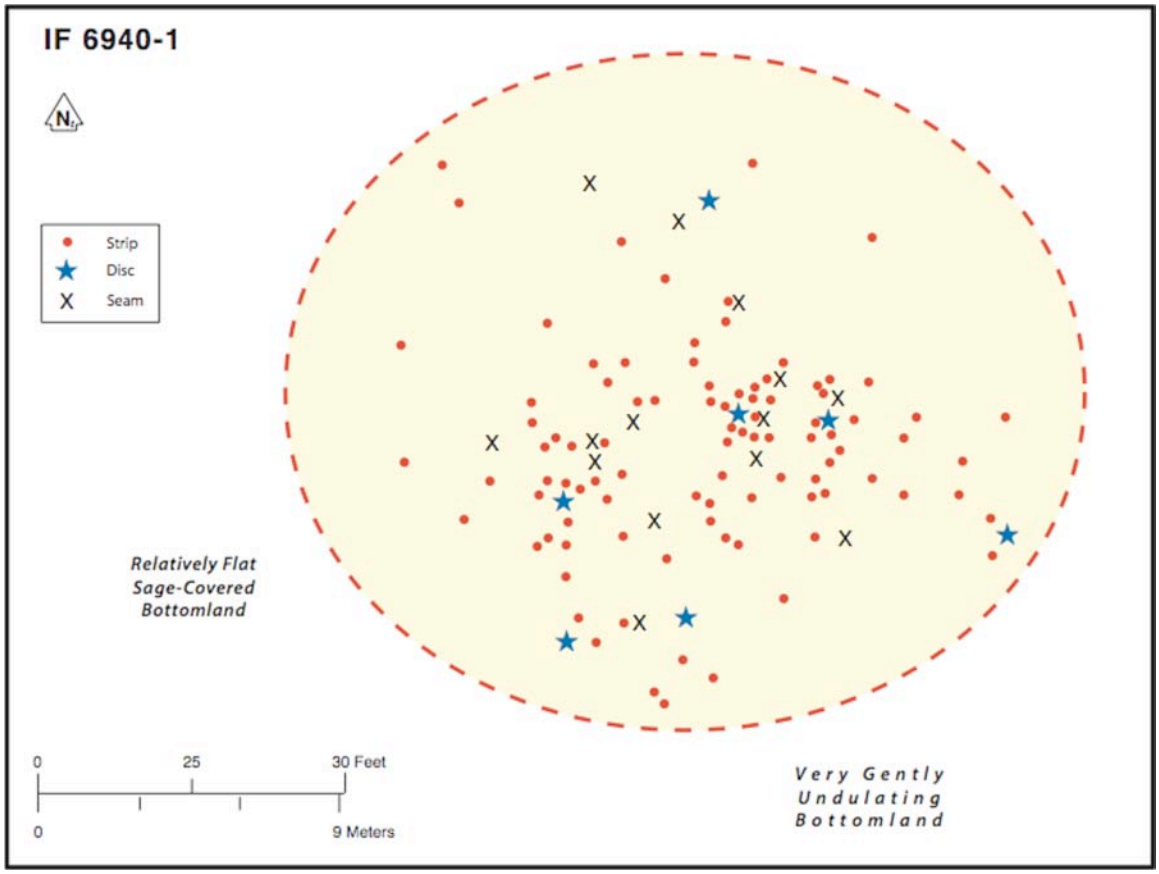

Figure 24. IF6940-1 site sketch, northeastern Wyoming.

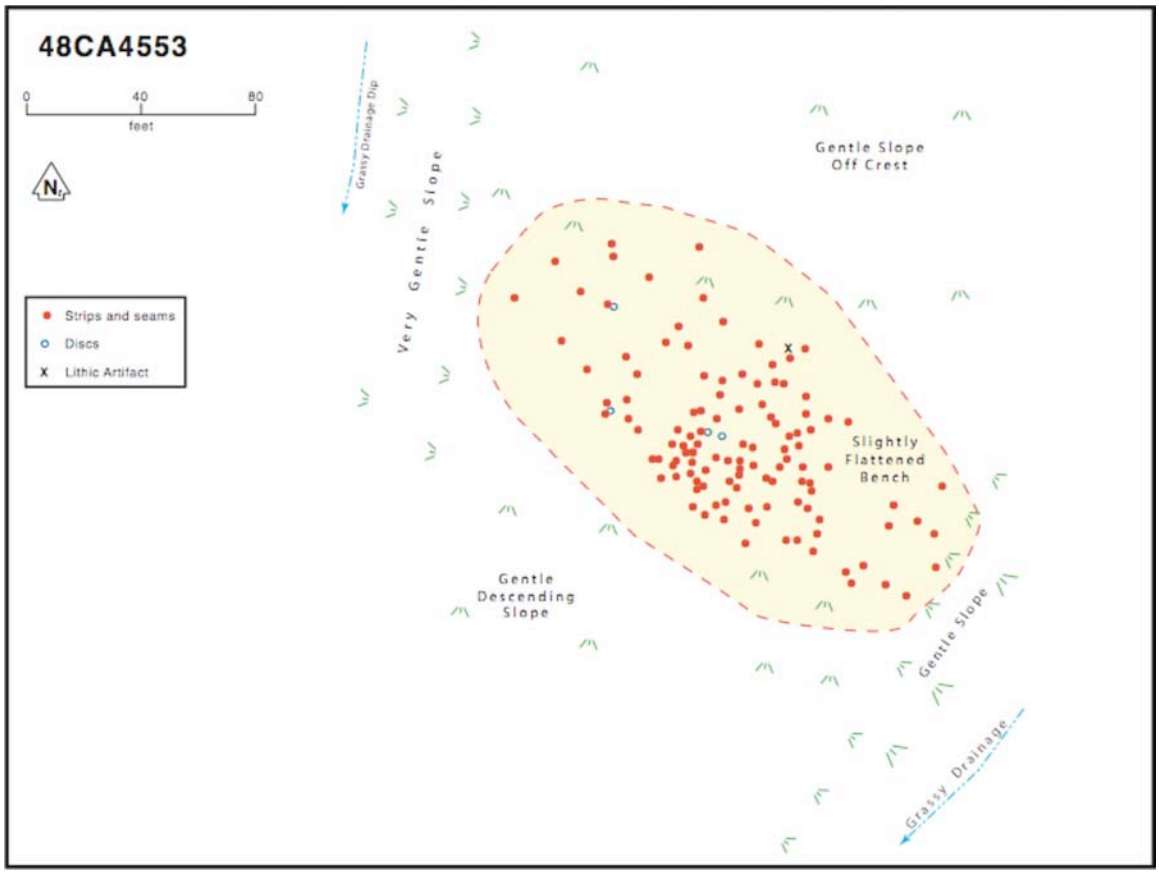

Figure 25. 48CA4553 site sketch, northeastern Wyoming.

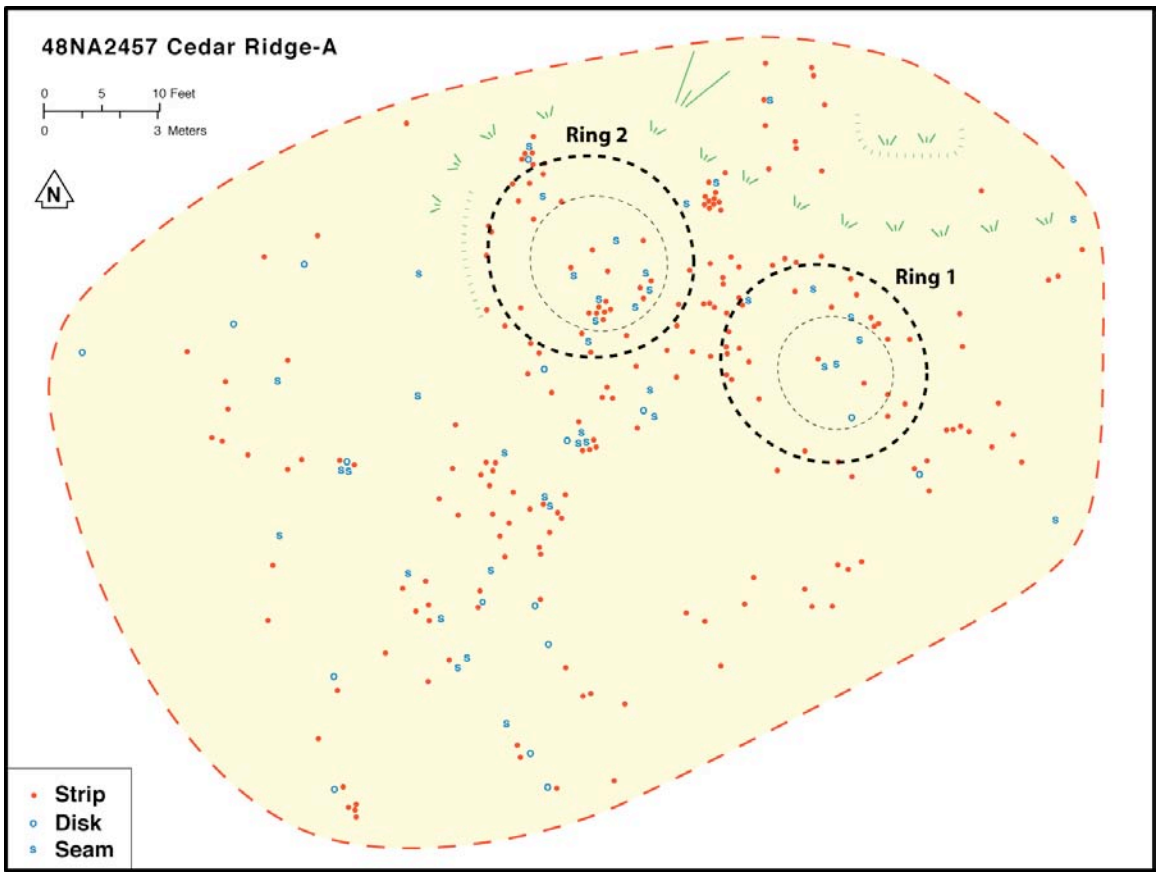

Figure 26. 48NA2457 Cedar Ridge-A site sketch, central Wyoming.

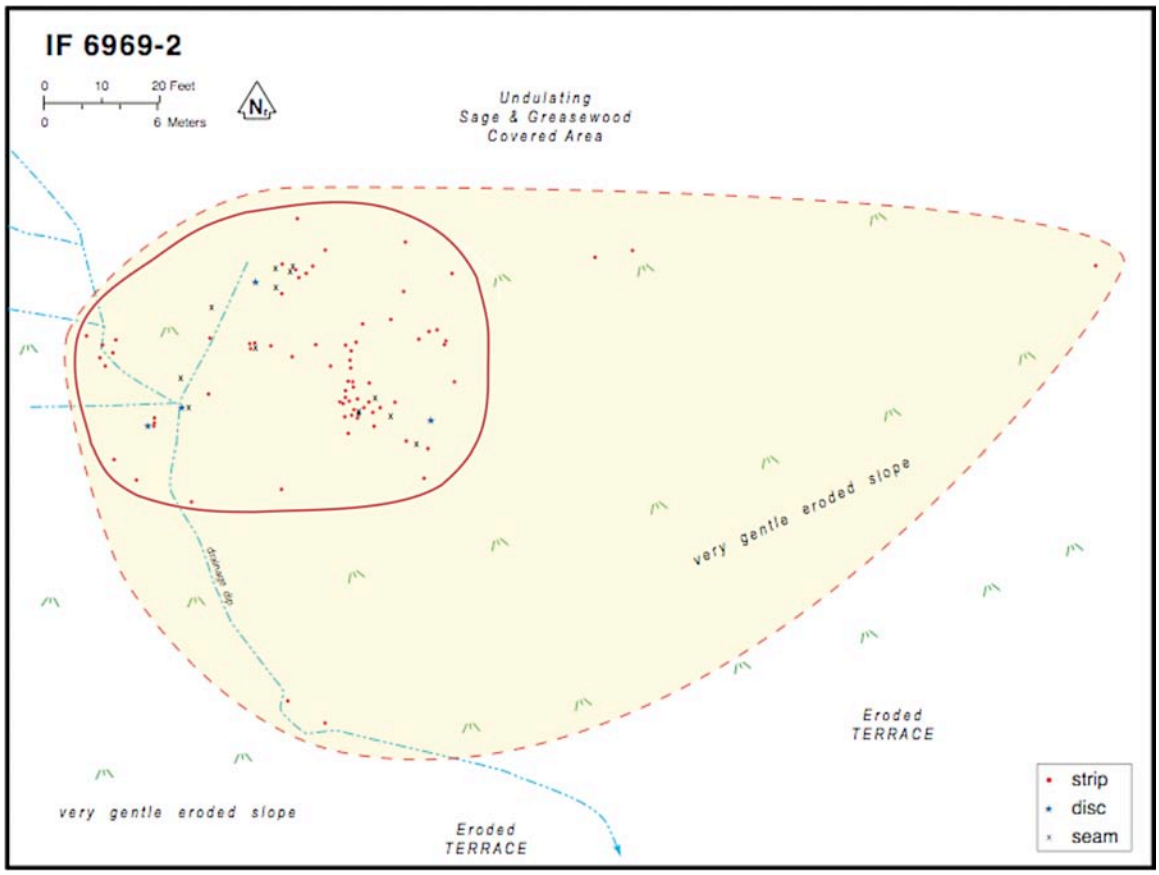

Figure 27. IF6969-2 site sketch, southwestern Wyoming.

Figure 28. Site IF6940-1 in southwestern Wyoming.