

EXCAVATION AND LABORATORY PROCEDURES FOR THE 2008 AND 2009

TEXAS ARCHEOLOGICAL SOCIETY FIELD SCHOOLS

Ochiltree and Roberts Counties, Texas

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May 2008

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Introduction

This document provides an overview of the basic field and laboratory procedures that will be used during the 2008 and 2009 Texas Archeological Society (TAS) Field Schools. Since most of the techniques and methods described here are fairly standardized among modern archaeological field projects, most of what follows should be familiar to many readers with previous field experience. Whatever the case may be, if the reader has any questions regarding field or lab procedures, please feel free to contact the crew chief or site principal investigator (P.I.) at your site or lab director if you are working in one of the two laboratories. For those with no prior archaeological field experience it is recommended that you attend the beginners orientation led by Pat Mercado-Allinger. In this class you will be taught some basic archaeological principles and be given background for the techniques that will be used at this Field School.

The first portion of this manual will address excavation-related procedures and Appendix II will examine basic laboratory methods employed at the Field School. Two excellent resources for further information on archaeological fieldwork and laboratory methods are available through the Crow Canyon Archaeological Center. These documents, a field manual and laboratory manual, are quite thorough in scope and are accessible through the online publications at the Crow Canyon Archaeological Center website.

http://www.crowcanyon.org/ResearchReports/FieldManual/Field_Manual_all.pdf

<http://www.crowcanyon.org/ResearchReports/LabManual/LaboratoryManual.pdf>

The principal investigators and laboratory directors for the 2008 Texas Archeological Society Field School are as follows:

Site or Laboratory	Name	Affiliation
Chill Hill Co-P.I.	Tod Bevitt	Kansas State Historical Society
Chill Hill Co-P.I.	Mark Latham	Burns and McDonnell
Chill Hill Lab Director	Jennifer Hatchett	Texas Tech University
Halston P.I.	Brett Cruse	Texas Historical Commission
Evan's Supply Depot P.I.	Tiffany Osburn	Texas Historical Commission
Sourdough Creek Testing Co-P.I.	Dustin Batten	Eastern New Mexico University
Sourdough Creek Testing Co-P.I.	Joe Rogers	Texas Region 2 Steward
Pat's Creek Testing P.I.	Casey Carmichael	University of Colorado
Dugout Creek Survey P.I.	Margaret Howard	Texas Parks and Wildlife
Wolf Creek Lab Director	Jeff Indeck	West Texas A&M University
Project Flotation Technician	Andrew Gottsfield	University of Kansas

Excavation Procedures Overview

Excavations strategies planned for 2008 and 2009 TAS Field Schools will consist of two main types. First, large, open block units will be excavated at Chill Hill, Halston, and Evan's Supply Depot. Second, a testing program consisting of isolated one-by-one meter test units will be excavated at a series of five sites in the Dugout Creek Valley and two sites in the upper Pat's Creek drainage. Although excavation strategies may vary from site to site, the basic types of excavation methods and techniques employed will essentially be the same. Nonetheless, because we are working on a number of different types of sites that were occupied during various prehistoric and historic periods, we can anticipate that a wide variety of archaeological features will be encountered. As such,

certain excavation techniques will be more appropriate than others depending on the types of cultural features that are encountered. Decisions regarding what types of archaeological excavation techniques are most appropriate for a given situation will be made by the P.I. at each site.

Site Testing

The five sites slated for test excavations in the Sourdough Creek Valley include Sourdough, Bee Jay, Barnard, Sienna, and Krista (see Figure 1). Each of these sites represents encampments repeatedly occupied by mobile foragers from about 4000-2000 B.P. The two sites in the upper Pat's Creek drainage selected for test excavations are called the Cross-L and C-C sites (Figure 2). The Cross-L site may have been occupied during the Late Ceramic period (A.D. 1500 to 1750) and the C-C was inhabited from about 4000-2000 B.P. Permanent site datums have been established at these locales and will facilitate site mapping using a total station.

The location of one-by-one meter test units will be marked at each of the sites prior to the Field School. The flags marking each unit will be labeled in the order in which they should be excavated. Upon arrival, testing crews will be assigned to a test unit by their site P.I. and will lay out their units to the cardinal directions using iron spikes. A wooden stake for a line level should be established immediately adjacent to each unit. Line levels should be given an arbitrary elevation of 100.00 m. To facilitate correlating levels across the site, all levels should end on even increments of 10 cm (e.g., 99.70, 99.60, 99.30, etc.). Unless instructed otherwise by your P.I., excavation shall proceed in arbitrary 10 cm vertical units. Excavation level forms used during testing will be the

same as those used at the other sites examined during the 2008 and 2009 TAS Field Schools (Appendix I). Excavation will proceed until sterile deposits are encountered.



Figure 1. Map showing the location of the Sourdough Creek sites slated for testing.

All excavated matrix from site testing will be dry screened using shaker screens fitted with fine mesh. Soil samples, 6 liters in size, will be collected from every level beginning with Level 2. Additional samples will be taken at the discretion of the principal investigator of the site. Upon completion of each test unit, at least one wall profile will be mapped and photographed. If features are encountered during testing, they will be assigned a feature number by the P.I. and a feature form completed (Appendix I). The P.I. will collect all completed feature and level forms and recovery bags and transport them to

the Wolf Creek Lab at the end of each day. Here, all paperwork will be rechecked and entered into the lab inventory book. Level and feature forms and recovery bags for levels that remain incomplete at the end of day will be turned over to the P.I., who will transport these materials back to the site the following day. Upon completion of testing at a given site, test units and other pertinent features will be mapped using a total station or Trimble GPS unit.



Figure 2. Map showing the location of the Upper Pat's Creek sites slated for testing.

Open Block Excavations

Field work carried out at Chill Hill, Halston, and Evan's Supply Depot will consist primarily of the excavation of large, open block units. The size of these blocks will depend entirely on the number of participants that attend the Field School. The

placement of blocks at these sites will be aided by shallow, subsurface geophysical surveys and/or metal detector surveys conducted in previous field seasons. Site grids, consisting of 30 m x 30 m squares, have been previously established at these sites. As such, the blocks slated for excavation at these three sites will be laid out within existing grid systems.

Our open blocks will be subdivided into two-by-two meter excavation units. The southwest corner coordinates of each square will be the unit designator and all items will be mapped in relation to this datum. Elevation control will be maintained using line levels established prior to the Field School using laser levels. The elevation of individual unit line levels will be established in relation to a permanent datum whose arbitrary elevation has been set at 100.00 meters. To limit accuracy problems, line level strings should be no more than 3.0 meters long. It is essential that line level stakes be placed in locations where they are least likely to be disturbed. Also, lines levels need to be checked daily by crew chiefs using the site laser level to ensure that they are providing correct elevations.

Excavation in open blocks will proceed using shovels, trowels, and bamboo tools. Soil conditions and artifact densities will dictate what specific types of excavation techniques should be used. For example, excavation of fragile artifacts, such as bone, should be carried out using bamboo tools and soft brushes, not metal tools. Items to be piece-plotted will be mapped from southwest corner and the three-dimensional provenience plotted on the level form plan map. Unless instructed otherwise by your P.I., excavation shall proceed in arbitrary 10 cm vertical units.

We will attempt to excavate all areas of each block at a relatively constant rate. In other words, we do not want to have some units with three to five levels excavated, while other areas remain unexcavated. Feature outlines will be mapped as they are encountered and completely exposed. Those features selected for complete excavation will be assigned a feature number and a feature form will be filled out with help from your crew chief. While 6-liter soil samples will be systematically collected for each unit, additional samples, especially bulk feature fill, may be taken at the discretion of the site P.I.

We will have site secretaries at Chill Hill, Halston, and Evan's Depot. Prior to excavation of a new level, you will visit the site secretary and receive a blank level form and recovery bag. Upon completion of the level, you will revisit the secretary and turn in your paperwork. Be sure that your provenience information is correct on your level form, recovery bag, and any special samples (e.g., soil samples) you have collected. Feature forms will also be available through your site secretary. The site secretary will keep a field inventory of all materials and will assign catalog numbers as materials are checked in.

Completed field inventory forms will accompany all level forms, recovery bags, and special samples to the appropriate field lab at the end of the day. Your P.I. will assign a crew to deliver these materials to the lab and check them in. If at all possible, do not begin a new level near the close of a field day. Rather, try to help out others with excavation and screening to complete other levels before leaving the field. Paperwork and recovery bags associated with levels that remain incomplete at the end of the day will be collected by your crew chief and placed in a plastic tote marked with the site number and crew chief's name. This individual is responsible for transporting these materials

back to the field the next day. For materials from Chill Hill and Evan's Depot, these may be stored overnight at the Chill Hill lab rather than hauling them back and forth from our field camp. For Halston, materials from incomplete levels should be stored in a central location at camp (e.g., an enclosed vehicle, such as van or pick-up with a topper, driven by someone working at the site).

Water screening using fine wire mesh will be employed at Halston and Chill Hill. Dry screening through fine mesh will be used at Evan's Depot. Water screening is being used to increase recovery rates of delicate artifacts, such as shell and microfaunal remains. As such, it is important that while water screening you wash the soil through the mesh; do not force or grind the dirt through the screen. Artifacts collected during water screening will be placed in metal drying trays. It is important that these artifacts are dry before they are placed in paper level recovery bags and submitted to the site secretary. At Halston, select matrix samples will also be systematically subjected to water screening through very fine mesh screens to facilitate the recovery of small glass trade beads.

Appendix I: Excavation-Related Forms

This section provides an introduction to the types of excavation-related forms used during the upcoming TAS Field Schools. For most participants these forms will consist of level and feature forms. Site secretaries and lab personnel also have forms which they will be using. However, since the last two are pretty self-explanatory, they are not included here.

The following provides a thorough step-by-step introduction on how to fill out Courson Archaeological Research excavation forms and the types of information that you should be recording. Please note that numerous sections are similar to multiple choice-like tests. We have done this in order to get participants thinking about the types of information that should be recorded on their level forms while they are excavating. For example, has the soil changed in color or texture (e.g., a shift from sand to clay)? Are artifacts becoming more or less numerous than the previous level? Are these changes confined to a certain portion of your unit or are they continuous across the entire unit? These changes generally signal that something important is happening in this area of the site. As such, please be very conscientious while excavating and filling out your level forms; chances are this will be our only opportunity to document these conditions before they are forever destroyed. Lastly, since questions or circumstances we have not anticipated always seem to arise while out in the field, always feel free to contact your crew chief or P.I. if you are in doubt about how to fill out a specific section of the level form. Please use pencil (No. 2 is good) to complete forms.



EXCAVATION LEVEL FORM

Catalog # _____

Page _____ of _____

Site Name and Trinomial: _____ Area: _____

Unit #: N _____ E _____ Level and Elevation: _____

Excavated By: _____ Date Began: _____

Recorded By: _____ Date Ended: _____

Dirt Screened? Yes No Screening Method: Water Dry Mesh Size: 1/8" 1/4"

Excavation Method: Shovel Trowel Bamboo Other: _____

Soil Description: _____ Dry Moist

Changes from Previous Level (circle all that apply):

Soil Color Lighter Darker Unchanged _____

Matrix Texture Sandier Less Clay More Rock No Change Other: _____

Artifact Density Increased Decreased Remained the Same _____

In this Level (circle all that apply):

Rodent Runs were Absent Sparse Common Abundant _____

Artifacts were Evenly Distributed throughout Level Concentrated in One or More Areas or Strata

Explain Latter: _____

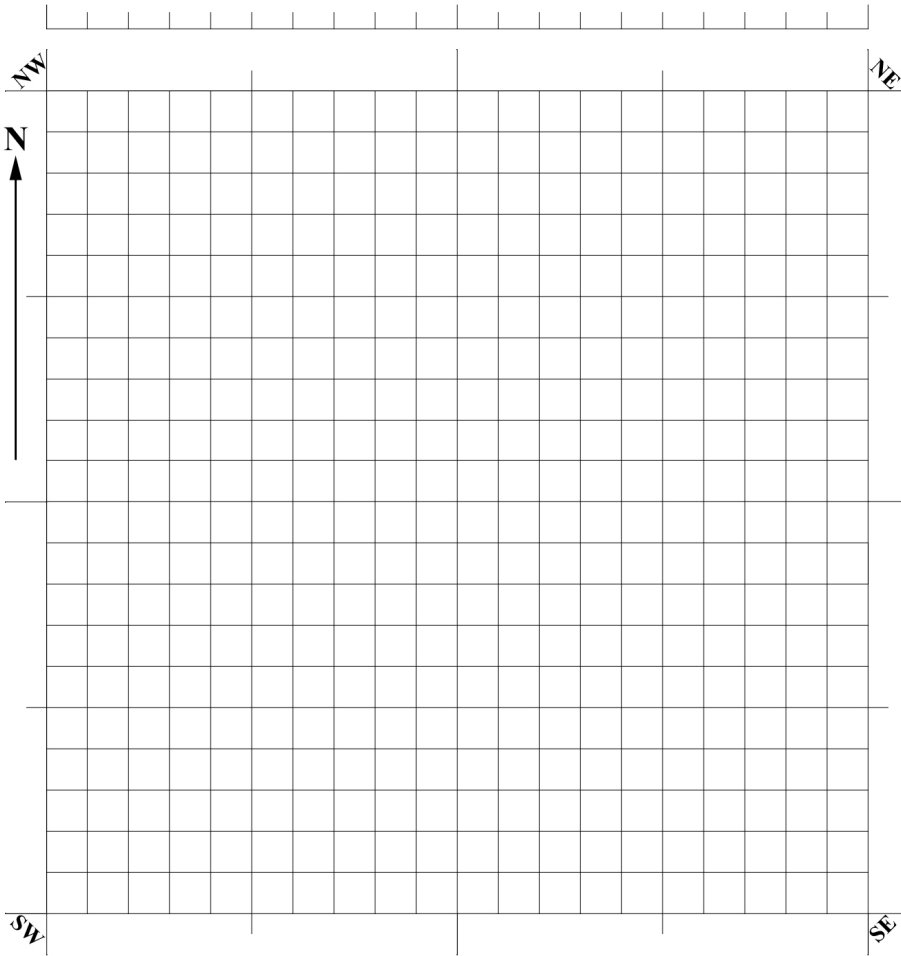
Were Unit Floors and Walls Troweled for Features? Yes Feature Present? Yes Maybe No

Level Discussion: _____

Multiple horizontal lines for writing level discussion.

Unit #: N _____ E _____ Level and Elevation: _____

Scale



- | Mapped Item | Elev. (cm bd) |
|-------------|---------------|
| 1 | _____ |
| 2 | _____ |
| 3 | _____ |
| 4 | _____ |
| 5 | _____ |
| 6 | _____ |
| 7 | _____ |
| 8 | _____ |
| 9 | _____ |
| 10 | _____ |
| 11 | _____ |
| 12 | _____ |
| 13 | _____ |
| 14 | _____ |
| 15 | _____ |
| 16 | _____ |
| 17 | _____ |
| 18 | _____ |
| 19 | _____ |
| 20 | _____ |

ADDITIONAL NOTES: _____

Artifacts Recovered (circle all that apply):

Debitage Proj. Point Lithic Tool Bone Bone Tool Groundstone FCR Ceramics
 Rim Sherd Shell Exotic Item: _____ Other: _____

Soil Samples 0 1 2 _____ Charcoal Samples 0 1 2 _____ Photographs? Yes No

Other Samples? _____

Total # of Recovery Bags: 1 2 3 4 _____ Are Mapped Items Numbered and Wrapped in Foil? Yes

Are Proveniences on Paperwork and Recovery Bags Correct? Yes Supervisor's Approval: _____



FEATURE FORM

Catalog # _____

Page _____ of _____

Feature # _____ Feature Type _____

Site Name and Trinomial: _____ Area: _____

Unit #: N _____ E _____ Level and Elevation: _____

Excavated By: _____ Date Began: _____

Recorded By: _____ Date Ended: _____

How was Feature Identified? _____

Physical Description of Feature _____

Description of Soil Within Feature _____

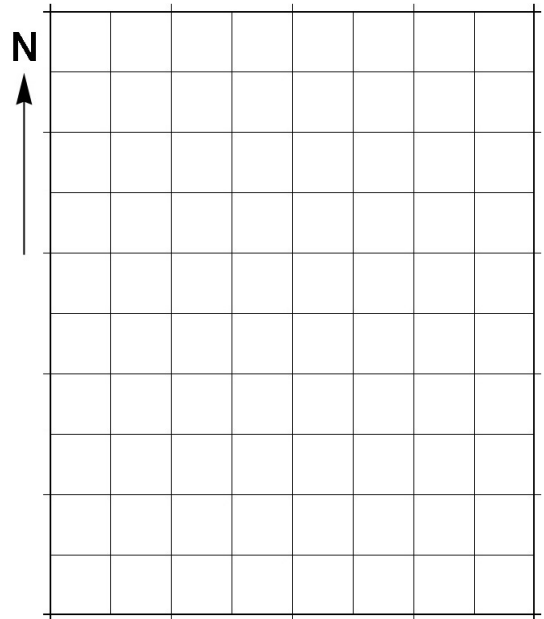
Description of Soil Outside Feature _____

Relationship to Other Features _____

Associated Artifacts _____

Additional Remarks _____

Sketch of Feature within Grid



Provide Grid Coordinates

Feature # _____ Plan Map

Feature Measurements

Max. Length _____
 Direction _____
 Max. Width _____
 Direction _____
 Top Elevation _____
 Bottom Elevation _____

Mapped Items	Elev. (cm bd)
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____
10	_____
11	_____

Feature # _____ Profile

Legend

of Soil Samples 1 2 3 _____

Photographs Yes No

Specimen Bags 1 2 3 _____

Supervisor's Blessing _____

Level Form Instructions

The following provides a step-by-step introduction on how to fill out the level forms. In particular, this describes the types of information that should be included for each specific section. Please be sure to fill in all lines. Do not leave any lines blank. If necessary fill in blanks with “NA” or a dashed line.

Catalog #: This is a permanent number assigned to a specific unit and level. No other provenience will have this same number. The catalog number will be assigned in the field by the site secretary when all materials (e.g., paperwork and recovery bags) are turned in upon completion of a level.

Page _____ of _____: This will usually be “page 1 of 1” unless additional forms or maps were completed as a part of this level.

Site Name and Trinomial: Self-explanatory (e.g., Chill Hill (41RB132)).

Area: Some of our larger sites may be divided into subareas, such as Area A or Block B. If this does not apply, write “NA” or a dashed line. If you are working on one of the sites that is being tested, you may enter in which test unit (TU) or test pit (TP) you are working on here.

Unit #: Self-explanatory (e.g., N 1040 E 1016).

Level and Elevation: Self-explanatory (e.g., Level 2 (30-40 cm bd)).

Excavated By: Who participated in the excavation of this level? Include first and last names of all participants.

Recorded By: Who filled out this level form and plan map? Include first and last names of all recorders.

Date Began: The date that excavation of this level began. Include day, month, and year.

Date Ended: The date that excavation of this level was completed. Once again, include day, month, and year.

Dirt Screened?: Was the matrix from this level screened? If not, explain why not in the level discussion below.

Screening Method: Was the matrix water or dry screened?

Mesh Size: Most excavated matrix will be screened through 1/8" mesh unless special circumstances arise. If the latter is the case, explain these circumstances in the level discussion below.

Excavation Method: Circle or describe the tools used in the excavation of this level.

Soil Description: Include soil texture and color.

General soil texture classes that might be useful are as follows:

Sand: Feels coarse when rubbed between your fingers.

Fine Sand: Less coarse than above; imagine the texture of 120 grit sandpaper.

Sandy Silt or Silty Sand: Combination of above and below. Sandy silt has more silt than sand and silty sand has more sand than silt.

Silt: Much finer than sand; no grains of sand can be felt when rubbed between your fingers.

Clay: Extremely fine material, finer than silt. Rarely occurs on archaeological sites of the region.

Loam: A combination of sand, silt, and clay.

Ideally, soil color for all levels should be obtained using a Munsell Color book. However, if one is not available, ask your crew chief or P.I. for help.

Changes from Previous Level: Soil Color: Self-explanatory.

Changes from Previous Level: Matrix Texture: Self-explanatory.

Changes from Previous Level: Artifact Density: Self-explanatory.

In this Level: Rodent Runs were: Self-explanatory.

In this Level: Artifacts were: Self-explanatory.

Were Floors and Walls Troweled for Features: A reminder to carefully scrape the floor and walls of your excavation unit with a trowel to look for color and texture changes that may indicate the presence of a feature. This is usually done at the completion of each level.

Features Present?: Self-explanatory.

Level Discussion: Discuss in detail any of the changes or observations from the previous level. The above sections are intended to get you thinking about the types of things that we want you to note and record on this level form.

Plan Map: This grid should be used to carefully plot all mapped items encountered during the excavation of this level. Draw each mapped item to scale and label using the appropriate number used on the inventory at the right side of the page. The inventory list on the right should be used to number, describe, and provide the elevation of the surface that each mapped item was laying on (e.g., 96.14 cm). Above the plan map be sure to provide the unit designation (i.e., N 1020 E 1016), level (i.e., 2), and the elevation of this level (20-30 cm). Also, be sure to designate the size or scale of the unit shown in the plan map using the blank scale at the top. Note: North is always up on your plan map!

Additional Notes: Self-explanatory.

Artifacts Recovered: Circle any of the artifacts listed here if they were recovered during the excavation of this level. If you have any problems with the identification of any artifacts, potential exotic trade items, or raw materials encountered during excavation, please consult your crew chief or site P.I.

Samples: Record the type and quantity of samples collected during the excavation of this level.

Photographs: Record any official photos shot by site photographer; do not include personal photographs.

Total Number of Recovery Bags: This section refers to the total quantity of individual paper recovery bags. This does include soil samples.

Are Mapped Items Numbered and Wrapped in Foil? Just a reminder.

Are Proveniences on Paperwork and Recovery Bags Correct? Another reminder. Be sure that this information is correct before you visit the site secretary. If not, you will be chewed out!

Supervisor's Approval: Have your crew chief check over your paperwork and recovery bags. If all is in order, have your crew chief sign his or her initials. Gather all of your paperwork, recovery bags, and soil samples and check them in with the site secretary.

Feature Form Instructions

Catalog #: Number assigned by site secretary.

Page _____ of _____: Fill in the specific page number you are completing and the total number pages used to fully document the feature.

Feature #: Sequential number assigned by site secretary.

Feature Type: Verbal description of feature (e.g., storage pit, hearth, post hole, etc.).

Site Name and Trinomial: Self-explanatory; Chill Hill (41RB132).

Area: Some of our larger sites may be divided into subareas, such as Area A or Block B. If this does not apply, write “NA” or a dashed line. If you are working on one of the sites that is being tested, you may enter in which test unit (TU) or test pit (TP) you are working on here.

Unit #: Self-explanatory (e.g., N 1040 E 1016).

Level and Elevation: Self-explanatory (e.g., Level 2 (30-40 cm bd)).

Excavated By: Who participated in the excavation of this level? Include first and last names of all participants.

Recorded By: Who filled out this level form and plan map? Include first and last names of all recorders.

Date Began: The date that excavation of this level began. Include day, month, and year.

Date Ended: The date that excavation of this level was completed. Once again, include day, month, and year.

How was Feature Identified? Was the feature found during normal excavation? Was it found while cleaning the walls or floor? Was there a change in soil color or density of artifacts that signaled the presence of a potential feature?

Physical Description of Feature: For example, is it a basin-shaped hearth with a raised clay sill, a bell-shaped cache pit backfilled with trash, or a concentration of faunal debris contained within an oval-shaped shallow depression? If you have questions regarding this description, ask your crew chief or P.I. for assistance.

Description of Soil Within Feature: Provide soil texture and Munsell color description.

Description of Soil Outside Feature: Provide soil texture and Munsell color description.

Relationship to Other Features: Is this a hearth contained within House #4? Is it a sheet midden down slope from House #2? Is this feature isolated and apparently not related to any other feature?

Associated Artifacts: Provide a list of general types of artifacts that are associated with the feature. For example, trash debris, including burned and unburned bone, ash, charcoal, and chipped stone debitage. You may also list unique artifacts found in or near the feature, such as exhausted scrapers, a Harahey knife, *Olivella* shell beads, a scapula hoe, or sandstone metate fragments.

Additional Remarks: Describe anything else associated with the feature that was not covered in earlier sections. Also, you may choose to elaborate in greater detail on other aspects of the feature that you believe may be important. Oftentimes, your crew chief or P.I. may ask you to note something particular on your feature form; this is the perfect place to record these remarks.

Sketch of Feature within Grid: Plot the location of your feature (to scale) within the larger grid area on this map. If there are any additional features in this area include them also on your plan map. Be sure to provide the appropriate grid coordinates on this map.

Feature # _____ Plan Map: Provide the Feature # assigned by site secretary at the top of this plan map. Accurately plot your feature to scale on this map and include any artifacts that were recorded. Label this plan map with the appropriate grid coordinates.

Feature Measurements

Max. Length: What is the maximum length of this feature?

Direction: For example, the maximum length of this feature is oriented from north to south or from northwest to southeast.

Max. Width: What is the maximum width of this feature?

Direction: See above.

Top Elevation: The highest elevation measurement of the feature in relation to your datum (e.g., the top of this feature is at 34 cm below datum).

Bottom Elevation: The lowest elevation measurement of the feature in relation to your datum (e.g., the bottom of this feature is at 87 cm below datum).

Mapped Items and Elev. (cm bd): As you plot artifacts on the plan map to the left, assign them a number and provide an elevation for the surface they are laying on (e.g., 1 Bison scapula hoe 54 cm bd). The number assigned here should correspond to the number labeling the artifact on the plan map.

Feature # _____ Profile: If you draw a profile of this feature, use this map to record this information. Be sure to include any artifacts that are present in the profile and

provide a scale or grid coordinates. As with any profile drawing, be sure to include soil texture and color descriptions.

Legend: If you use symbols in your profile drawing to depict artifacts, rocks or rodent runs, use this area to describe these symbols.

of Soil Samples: Record the number of soil samples collected. If the entire feature fill is collected for flotation, write “All” in the space provided.

Photographs: A reminder to have a site photographer take photographs of your feature.

Specimen Bags: This section refers to the total quantity of individual paper recovery bags. This does include soil samples.

Supervisor’s Blessing: Once you have completed all of the paperwork and mapping associated with this feature, have your crew chief or P.I. check everything over. If he or she is satisfied with everything, have them sign off on your paperwork and check all of the materials into the site secretary.

Appendix II: Field Laboratory Procedures

As noted in the TAS publication “A Field Procedures Manual 2003,” the primary goals of an archaeological field laboratory are admitting bags, logging in bags, washing, filling out catalog forms, bagging for curation, labeling, boxing by site, inventorying, and final packing. Oftentimes, however, many archaeological projects place a much greater emphasis on tasks associated with the fieldwork portion of a project and less importance on completing basic laboratory work while in the field. With this being said, the primary goals of our field laboratories are to:

1. Log in all materials as they come in from the field at the end of each day
2. Thoroughly wash and dry all artifacts recovered during the Field School
3. Sort all bulk and unique items by artifact class for each unit and level
4. Count and/or weigh all artifacts and enter this information on unit and level specific catalog forms
5. Fill out artifact tags and place all artifacts in appropriately-sized bags
6. Box all processed materials by site or site area
7. Complete flotation of soil samples collected during the Field School

While there will undoubtedly be fieldwork that will need to be completed after the Field School has formally ended, we expect that there will be an even larger amount of laboratory work that will also remain unfinished. As such, it will be necessary to continue completing field and laboratory work in the weeks following Field School. Anyone who

is interested in assisting us in either of these tasks should contact their site P.I. or lab director. As a result, it is crucial that we complete as many of these basic goals during the Field School since our limited staff at Courson Archaeological Research is not capable of processing large quantities of artifacts after the Field School has ended. The following provides an introduction to the basic procedures that will be carried out in our field laboratories. The “Lab Protocol” presented here, with slight modifications, has been developed by Chris Garst, lab director at the Kansas State Historical Society Archaeology Office.

Washing

Wash only those artifacts that have been assigned a catalog number and have been formally logged into the laboratory. When washing artifacts, work with only one provenience at a time. Use extreme care to maintain the correct provenience information. Use a sieve or a tray to examine all the artifacts before beginning any washing. Investigate all foil packets and vials. Foil packets containing carbon, wood, or soil samples should be left open to dry. Notify your lab director of such packets. When washing follow the guidelines below:

- Use tap water only, do not use soap.
- Do not allow bone, shell, pottery, daub, or limestone to soak in water.
- Do not clean radiocarbon samples (usually charcoal) or soil samples. They need to completely dry before being sealed for storage. Lay them out with their complete provenience information. Drape with mesh to prevent cross-contamination. Do not place paper labels directly with radiocarbon samples.

Shell: Avoid getting wet at all. Remove as much dirt as possible without damaging the shell. Use a soft toothbrush if necessary.

Bone: Clean gently with a soft toothbrush. A bamboo pick may also be very helpful. Do not try to reconstruct bone with white glue. Check with your lab director.

Pottery: If it is without cooking residue, wash delicately, without leaving damaging brush marks. Please make certain the pottery is completely clean, including the edges. DO NOT wash pottery with dark, encrusted cooking residue. If you are unsure what cooking residue looks like, ask your lab director.

Ground stone: Dry brushing is the best way to clean ground stone, but you may use water and gently wash the non-ground surfaces.

Charcoal: Open packet and let dry completely. Do not wash.

Pipe bowls and stems: Do not clean and save all contents.

Metal artifacts: Gently wash with water. When washing crushed tin cans, deformed shell casings or other similar items, be sure to remove all soil from the inside of these items. In some cases it may be necessary to partially pry open these items so that the soil inside can be thoroughly washed out. Ask your lab director if you have any questions regarding this procedure.

Cut the label from the original field bag and put it on the drying screen with the artifacts. Do not overload drying screens. Proveniences may be split between drying screens, but all provenience information and the catalog number must be clearly maintained with all artifacts.

Sorting

Once artifacts are completely dry, sort each provenience by material/function type.

Bulk items: Some artifact types are bagged and cataloged together by class and provenience. These include debitage (chert flakes), unmodified bone, body sherds (pottery), burned rock, and fractured boiling stones.

Bulk sorted historic artifacts: Once again, some historic artifact types are bagged and cataloged together. These include glass fragments of the same color, stoneware fragments, leaded can fragments, horseshoe nails, and square nails.

Database class historic artifacts: Sort other historic artifacts by database class (DB), color, element, and function.

Unique items: Unique items of prehistoric age should be placed individually in ziplock bags of the appropriate size. These include rim sherds, body sherds with handles, decorated body sherds, base sherds, scrapers, fragments of projectile points, etc. Pottery with cooking residue should be bagged individually. Charcoal, once completely dried, should be placed in an envelope of aluminum foil and then place inside a ziplock bag. The outside of the bag should be labeled in the lower right corner: "charcoal."

All the individual bags containing artifacts from one provenience should be placed in a larger ziplock bag. Make sure all the provenience information is included in the large ziplock bag. Place the sack front from the original field sack inside the larger ziplock bag.

Cataloging

We have two different systems for cataloging, one for prehistoric sites and another for historic sites. Our biggest concern with the cataloging is that everything is done consistently. Adjustments have been made to facilitate cataloging historic collections. For example, nails and shell casings, and other similar classes of artifacts will not be individually measured. Rather, they should be sorted by type and length and like items should be bagged together. Once this is completed, count the total number in each class of artifacts and record this information on separate lines of the catalog form. For the organic database class (OR), bones should be only be weighed and not counted. Lab personnel will use the following tools for cataloging: pens, pencils, catalog sheets, a scale, multiple sizes of ziplock bags, scotch tape, artifact label tags, and a fine-point Sharpie.

Bulk catalog similar items to count, weigh, and assign a single specimen number:

Debitage, body sherds, shell fragments, sandstone fragments, burned caliche, and heat-fractured boiling stones from the same provenience.

Bulk cataloged items to weigh only (not count) and assign a single specimen

number: Unmodified bone, charred organic material, daub, burned earth from the same provenience.

Items which receive individual specimen numbers and are weighed:

Prehistoric artifacts include complete/partial bone tools, complete/ partial stone tools including cores, complete/partial shell tools and ornaments (including shell hinges), pottery (decorated body sherds, handles, rim sherds, base fragments), utilized hematite, and any imported material such as obsidian, southwestern pottery, and turquoise. Historic artifacts include

complete or fragmentary ceramics (e.g., bases, rims, pieces with maker information/maker marks, unique finishes), complete or fragmentary glass wares (e.g., bases, rims, pieces with maker information/maker marks, unique finishes), unique metal items (e.g., buttons, tools, buckles, horse-related gear, and ornaments), beads, modified bone, complete containers, and tablewares/utensils. Sequential specimen numbers are assigned within each provenience code number, beginning with one.

The Catalog Record

Catalog records are permanent; please use a pencil and keep them neat and legible. There are several different catalog forms that can be used depending on circumstances (size of project, types of artifacts classes). Be certain to fill in all provenience information on the catalog record. The form you are using will prompt you for other needed information. When all the artifacts for a particular provenience have been cataloged, record the total number of sheets used. Add cataloger's name and date completed.

The Catalog Number

The artifact number consists of the site number, followed by a dash, the catalog number, followed by a dash and the specimen number (41RB132-3-17). Write in an inconspicuous place on the artifact (inside of sherds, away from the rim). Do not place numbers on the worked edges of artifacts. Do not place numbers on the broken edge of tools; place them along the midline. Avoid placing numbers on the face of the artifact that might be photographed or used for an exhibit.

To label an artifact: paint a small strip of clear base coat of PVA. (If you need to

remove this later, use a Q-tip and ethyl alcohol). If an artifact is rough, several layers may be needed to provide a smooth base. When base coat is dry, either write the number on it or, if artifact is dark, apply a white coat, allow to dry, then write the number on it. After the ink has dried, apply a top-coat of PVA. Only when this is completely dry should you place the artifact in a bag with a catalog tag. Mark the outside of the bag with the same number that is on the artifact.

Each ziplock bag containing artifacts should have the site number, a catalog number that denotes a specific provenience, and a specimen number placed inside on a label tag and outside on the front of the bag written using a Sharpie permanent marker. Place a piece of scotch tape over the writing on the outside to prevent smearing. Turn in the sack front from completely cataloged sacks to your supervisor.

Boxing artifacts for curation: Place in appropriately-sized boxes. Within each box organize bags in ascending provenience code order if appropriate. Mark end of box with site number, feature number, and material type if applicable.

Discard records: Artifacts to be discarded should be counted, weighed, recorded on a discard record form, and discarded into the trash.

Please notify the lab supervisor if the following occur:

- Problems noticed with field forms.
- Any problems with the artifacts, be it loss of provenience, damage, or deterioration.
- Supplies are running low, NOT when the supplies have run out.
- Problems with equipment as soon as they occur.
- Anticipated schedule changes.
- Any problems which affect one's ability to work effectively.