

EXCAVATION AND LABORATORY PROCEDURES FOR THE 2008 AND 2009 TEXAS ARCHEOLOGICAL SOCIETY FIELD SCHOOLS

Ochiltree and Roberts Counties, Texas

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Revised May 2009

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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, followed by a review of and explanations for completing the primary field forms in Appendix I. Appendix II will examine basic laboratory methods and forms 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, laboratory directors, and various project staff for the 2008/2009 Texas Archeological Society Field Schools are presented in the tables below.

Table 1. Project Personnel for the 2008 TAS Field School

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

Table 2. Project Personnel for the 2009 TAS Field School

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	Jenni Hatchett	Texas Tech University
Archie King Ruins #1	Doug Wilkens	THC Region 1 Steward
Archie King Ruins #1	Bill Parnell	TAS
Archie King Ruins #2	Joan Few	TAS
Evan's Supply Depot P.I.	Tiffany Osburn	Texas Historical Commission
Dugout Creek Testing P.I. #1	Dustin Batten	Eastern New Mexico University
Dugout Creek Testing P.I. #2	Joe Rogers	THC Region 1 Steward
Dugout Creek Testing P.I. #3	Brett Lang	AR Consultants, Inc.
Dugout Creek Survey P.I.	Margaret Howard	Texas Parks and Wildlife
Cross L Co-P.I.	Susan Vehik	University of Oklahoma
Cross L Co-P.I.	Art Tawater	THC Region 4 Steward
McClain Lab Director	Jeff Indeck	West Texas A&M University
Metal Detecting Survey Co-P.I.	Kelley Baker	CAR Volunteer
Metal Detecting Survey Co-P.I.	Richard Mackie	CAR Volunteer
Project Flotation Technician	Andrew Gottsfield	University of Kansas
Project Geophysicist	Project Geophysicist David Maki/Geoff Jones Archaeo-physic	
Project Geoarchaeologist	Rolfe Mandell	University of Kansas

Excavation Procedures Overview

Excavation strategies planned for the 2008 and 2009 TAS Field Schools will consist of two main types. First, large, open block units will be excavated at Chill Hill, Cross L, 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 four sites in the upper Sourdough Creek valley in 2008 and three sites in the Dugout Creek Valley in 2009 (Figure 1). 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 three sites slated for test excavations in 2009 in the Dugout Creek Valley include Faint, Killer, and Eastview. Each of these sites represents small permanent habitation sites occupied by Antelope Creek phase societies during the Middle period (A.D. 1250-1500). Permanent site datums have been established at these locales and will facilitate site mapping using a total data station (TDS).

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 (T.P. #1, T.P. #2, T.P. #3, etc.). 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.

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 level and feature forms and recovery bags and transport them to

the McClain Lab on Wolf Creek 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 TDS or Trimble GPS unit.



Figure 1. Scott and Lance

Open Block Excavations

Field work carried out at Chill Hill, Cross L, the Archie King Ruins, 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 prior to the Field School. 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 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 a laser level or adjacent line levels 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 level in the unit

beginning with level #2, additional samples, especially bulk feature fill, may be taken at the discretion of the site P.I. Be sure to measure each soil sample using a 2-liter plastic pitcher and that the amount is recorded with a marker on the soil sample tag.

We will have site secretaries at Chill Hill, Cross L, the Archie King Ruins, 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. Feature forms will also be available through your site secretary. 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 you have collected (e.g., soil samples). If you have multiple level recovery or soil sample bags, be sure that they are labeled correctly (e.g., Bag 1 of 2, Bag 7 of 12, etc.). The site secretary will keep a field inventory of all materials and will assign catalog numbers as materials are checked in.

All level recovery and soil sample bags from a unique provenience (e.g., 41RB132, N 2004 E 2070, Level 3, Elevation 99.80-99.70) will be assigned a single Catalog # by the site secretary. Previously, separate Catalog #'s were assigned for level recovery and soil sample bags from the same level of an excavation unit. This change will facilitate locating a soil sample from a given provenience during later stages of work. When checking in materials the site secretary should provide a brief, but accurate, description of what is being turned in. For example, Level Recovery Bag or Seven Soil Sample Bags should be sufficient. It will not be necessary to list everything that was recovered from a given level, such as bone, ceramics, arrowpoint, scraper, *Olivella* shell bead, C14, burned rock, etc.; simply record "Level Recovery Bag".

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 (see Table 3). 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 the other sites, 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).

Table 3. Laboratory Processing Assignments by Site

Site	Laboratory
Chill Hill	Chill Hill Lab
Evan's Depot	McClain Lab
Archie King Ruins	Chill Hill Lab
Eastview	McClain Lab
Killer	McClain Lab
Faint	McClain Lab
Cross L	McClain Lab
Metal Detecting Survey	McClain Lab
Pedestrian Survey	McClain Lab

Water screening using fine wire mesh will be employed at Chill Hill, Cross L, and Archie King Ruins. 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. Although dry screens will be available at Chill Hill, Cross L, and Archie King Ruins, they are *only* to be used if the water screens are inoperable for an extended period of time. Dry screening through fine mesh will be used at Evan's Depot, Eastview, Killer, and Faint.

Appendix I: Excavation-Related Forms

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

The following provides a thorough step-by-step introduction on how to fill out CAR excavation and feature 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 and feature 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 a level or feature form. Please use pencil (No. 2 is good) to complete forms. Do not use markers or ink pens to complete forms.



COURSON ARCHAEOLOGICAL RESEARCH

EXCAVATION LEVEL FORM

Catalog #	Page	of
Site Name and Trinomial:	Area:	
Unit #: N E Level and E	Clevation:	
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 Conce	entrated in One or More Area	as or Strata
•		
Explain Latter:		
Were Unit Floors and Walls Troweled for Features? Yes	Feature Present? Yes M	Maybe No
were officeroofs and wans frowered for readires.	Teature Frescht. Tes	Taybe 140
Level Discussion:		
		_

Scale	1/20	Mapped Item 2 3	
	1 to	3	
	4	4	
	1	5	
		6	
	,	7	
		8	
		9	
		10	
	<u> </u>	11	
		12	
		13	
		14	
	-		
	-	15	-
		16	
		17	
	,	18	
		19	
	SE.		
ADDITIONAL NOTES:			



COURSON ARCHAEOLOGICAL RESEARCH

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	†	Sketch of Featur	e within Grid
	IN [
Associated Artifacts			
Additional Remarks			
		Provide Grid (Coordinates

Feature # _____ Plan Map **Feature Measurements** Max. Length _____ Direction _____ N Max. Width _____ Direction _____ Top Elevation _____ Bottom Elevation _____ Mapped Items Elev. (cm bd) 10 Feature # Profile Legend # of Soil Samples 1 2 3 _____ Photographs Yes No Specimen Bags 1 2 3 Supervisor's Blessing 12

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. Perhaps most importantly, be sure to write **legibly**!!

Catalog #: This is a permanent number assigned to a specific unit and level or feature. 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 a site that is being tested, you may enter in which test pit you are working on here (TP #3).

Unit #: Self-explanatory (e.g., N 1040 E 1016). It is crucial that this information be correct!

Level and Elevation: Always include Level # and the Absolute Elevation (e.g., Level 2 (99.90-99.80)). It is crucial that this information is always correct! Do not use measurements below your line level (e.g., -32 cm).

Excavated By: As a rule, just record the full names of participants if one or two people are excavating. Otherwise, record only the initials, as there is generally not enough room to include the full names of all participants on level, feature, and site secretary forms, and recovery bags. Because we are only recording the initials of participants in some cases, it is important that each crew chief completely and accurately fill out a "Daily Participant Record" form at the Site Secretary Station each and every morning! Even if your crew does not change from day to day, please complete this form each day.

Recorded By: Who filled out this level form and plan map? When one or two people complete the record keeping, you may include full names; otherwise, record initials.

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 all 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 less sand than silt, and silty sand has less silt than sand.

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 sites in 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 (e.g., lighter, darker, etc.).

Changes from Previous Level: Matrix Texture: Self-explanatory (e.g., less sand, more clay, etc.).

Changes from Previous Level: Artifact Density: Self-explanatory (e.g., more in SW quad, less throughout).

In this Level: Rodent Runs were: Self-explanatory. Provide a count if possible and note if they are concentrated in a particular area of the unit.

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. Do not brush floors or walls to identify features, as this tends to obscure boundaries.

Features Present?: Self-explanatory.

Level Discussion: Provide a brief summary of the excavation of this level and what was encountered. 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. Discuss in detail any of the changes or observations noted above. Are cultural materials increasing or decreasing in frequency? Are artifacts concentrated in a certain area?

Plan Map: North is always up on your plan map! Above the plan map be sure to provide the unit designation (i.e., N 1020 E 1016) and the level # and level elevation (e.g., 2 (99.90-99.80)). Also, be sure to designate the size or scale of the unit shown in the plan map using the blank scale at the top. When you are beginning excavation of a new unit always be sure to record the starting ground elevations for all four corners and the center of the unit on your plan map before you begin excavation. Also, be sure to record the location, the absolute elevation, and elevation above ground level of your line level on the plan map and/or in your "Level Discussion" section on the front of the form. The plan map 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. Do not use letters or some other coding system when mapping items. 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. Be sure to correctly identify each item being mapped. If you cannot identify an item, please consult your crew chief or P.I. Do not record the elevation in cm below your line level (e.g., -32 cm); always use absolute elevations (e.g., 96.14 cm). If you map an item, but for whatever reason do not collect it, please record this information. Otherwise, it may be presumed that this item was lost during subsequent laboratory processing. If large quantities of items are mapped and a second level form is used, please continue to use the same numbering system. Do not start over with #1, or we will end up with multiple items having duplicate mapped item numbers. Before you collect mapped items ask your crew chief or P.I. if you need to take photographs.

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 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.; do not guess. Lastly, except for chipped stone artifacts, do not place artifacts, such as bone, ceramics, and charcoal, in sealed plastic bags. These artifacts contain a great deal of moisture, which will quickly condense when stored in plastic. Instead, carefully wrap artifacts in aluminum foil after they have been allowed to dry. *Legibly* write the mapped item # (e.g., MI #4) in two different places with a sharpie on the outside of the foil.

Samples: Record the type and quantity of samples collected during the excavation of this level. Be sure that all samples have tags that are correctly labeled. For example, is the sample a soil sample or a phytolith sample? As always, provide correct provenience information and the size of each sample in liters. If you collect multiple samples, please make sure that each of the tags are labeled appropriately (i.e., "1 of 3", "2 of 3", and "3 of 3"). Lastly, if you are working in a large open block excavation unit with several people excavating, just record the full name of your crew chief and use only initials for crew.

Photographs: Record any official photos shot by the site photographer; do not include personal photographs. We do not require pictures of the floors of completed levels unless there is something to see, such as *in situ* artifacts or the outline of a feature.

Total Number of Recovery Bags: This section refers to the total quantity of individual paper recovery bags. Please note that this does include soil samples. If you have multiple level recovery bags, be sure that they are labeled correctly (e.g., "1 of 2" and "2 of 2").

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

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 by Vicki, Teddy Lou, Jean or one of the other site secretaries!

Supervisor's Approval: This is very, very important; have your crew chief or P.I. check over your paperwork and recovery bags. Crew chiefs and P.I.'s should not assume that paperwork is correct. Even if an individual has correctly completed paperwork in the past, always check for errors before signing off. When everything is in order, gather all of the 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 pit (TP) you are working on here.

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

Level and Elevation: Always include Level # and the Absolute Elevation (e.g., Level 2 (99.90-99.80)). It is crucial that this information always be correct!

Excavated By: As a rule, just record the full names of participants only if one or two people are excavating. Otherwise, use only initials, as there is generally not enough room to include the full names of all participants on level, feature, and site secretary forms, and recovery bags. Because we are only recording the initials of participants in some cases, it is important that each crew chief completely and accurately fill out a "Daily Participant Record" form at the Site Secretary Station each and every morning! Even if your crew does not change from day to day, please complete this form each day.

Recorded By: Who filled out this level form and plan map? Include first and last name of the recorder.

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 the 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 99.42 m).

Bottom Elevation: The lowest elevation measurement of the feature in relation to your datum (e.g., the bottom of this feature is at 99.21 m).

Mapped Items and Elev. (cm bd [centimeters below datum]): Please do not use a separate piece of graph paper to map your feature unless you are instructed to do so by your site P.I.; these tend to get misfiled or lost. As you plot artifacts on the plan map to the left, assign sequential numbers and provide an absolute elevation for the surface they are laying on (e.g., 1 Bison scapula hoe 99.54 cm). The number assigned here should correspond to the number labeling the artifact on the plan map and on the bag or foil containing the artifact. For a detailed discussion regarding the correct methodology for completing a plan map and collecting mapped items, please review the Plan Map discussion presented earlier in the Level Form Instructions section.

Feature # _____ **Profile:** If you draw a profile of this feature, use this map to record this information. Once again, please do not use a separate piece of graph paper to map your feature unless you are instructed to do so by your site P.I. Be sure to include any artifacts that are present in the profile and provide a scale and 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 and record the total number of samples collected. If multiple sample bags are collected, be sure that all of the sample tags are labeled correctly.

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. Please note that this does include soil samples. If you have multiple level recovery bags, be sure that they are labeled correctly (e.g., "1 of 2" and "2 of 2").

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 a step-by-step introduction to the basic procedures that will carried out in our field laboratories. Portions of the "Lab Protocol" presented here has been developed by Chris Garst, lab director at the Kansas State Historical Society Archaeology Office.

Step 1 Checking Bags into the Laboratory

Check all bags, level and feature forms, sediment and other special samples, and any other collected items to verify that the Catalog # and provenience information recorded by field personnel is correct and consistent. If a problem with the paperwork and recovery bags exists and cannot be resolved, set these materials aside until the appropriate field personnel can be contacted (i.e., Site P.I. or Crew Chief).

Unless otherwise noted, all bags containing items or samples (including sediment and other special samples) from a unique provenience in the field, such as Test Unit 3, Level 4, Elevation 30-40 cm BD at 41RB137, should all be assigned the same Catalog #. While each Catalog # will generally be associated with a unique provenience, in some cases, particularly when a Feature # has been assigned, more than one Catalog # may be assigned to a given provenience. For example, in larger features, materials recovered from two or more adjoining excavation units may be assigned a single Catalog #. Likewise, more than one Catalog # can be assigned to a single provenience. As an example, one Catalog # may be assigned to materials recovered from Test Unit 3, Level 4, Elevation 99.70-99.60 cm at 41RB137, while another Catalog # may be assigned to an artifact cache or hearth feature contained within the same level of this test unit.

If the materials are from a site that does not have a site secretary, and thus, a Catalog # has not been assigned in the field, the lab director or assistant will assign a sequential Catalog # to these materials using a site secretary form, filling in all the appropriate information.

Once all of the above tasks are completed, these materials along with their associated paperwork are ready for further processing. Prepare the flotation samples for pick-up and transport to the flotation station. All other materials may be sent to a washing station for cleaning.

Step 2 Washing Artifacts

After obtaining a drying rack, carefully remove all of the artifacts from the field bags. Be sure that no artifacts are caught in the folds of the paper field sack. Next, using scissors, cut off the entire portion of the bag containing the provenience information and place on your drying rack. 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; prepare provenience documentation to go in each drying screen.

Because different types of cleaning techniques are appropriate for different types of artifacts, you will need to determine how you are going to wash each class of items represented. If you are not sure how to best clean an artifact, please consult with your laboratory supervisor for assistance.

In washing, our goal is clean each artifact as completely as possible without damaging the item. Durable artifacts, such as chipped stone or heat-modified rock, may be cleaned using water and a stiff bristled brush and placed on the drying rack. More fragile items, such as porous bone and some shell, will often require the use of a skewer stick and a soft bristled toothbrush or paint brush dipped in water. In some cases, you should not attempt to apply water to an artifact. In these situations use only a skewer stick and/or a soft bristled toothbrush or paint brush to remove sediment from the item. If it is apparent that an artifact will disintegrate with normal cleaning, consult with your laboratory supervisor on how best to clean and stabilize the item.

Small artifacts, generally less than 1 cm in size, may be cleaned by placing these items within a wire colander and thoroughly rinsing. Before placing these small items on a drying rack be sure to check them and make sure they are clean. 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.

Overall, be diligent during the cleaning process to avoid damage to artifacts and to be sure that artifacts are clean. Artifacts that are not thoroughly cleaned will eventually have to be washed and dried again; this takes extra time and causes delays. When washing artifacts, work with only one provenience at a time. <u>Use extreme care to maintain the correct provenience information</u>. The following provides a number of useful guidelines to abide by when cleaning artifacts:

- 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.

Groundstone: 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 the interiors of these items. Thoroughly dry all contents and place in a foil packet.

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 gently 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.

Step 3 Sorting Artifacts

To begin sorting you will need a drying rack containing clean and dry artifacts, a plastic sorting tray, and a Courson Archaeological Research Artifact Sorting and Catalog Code Key chart. The classes of artifacts typically recovered at prehistoric sites of the region are described in the Artifact Sorting and Catalog Code Key chart. It is crucial that the correct artifact class terminology presented on this chart be used at **ALL TIMES** when filling out Catalog Forms and Artifact Tags. While not ideal for all situations, the designation of specific terminology for individual artifact classes is necessary to maintain continuity during analysis and data entry. Otherwise, it is possible to have several different terms used to describe a single class of artifacts in the catalog records and computer databases. For example, the terms scrapers, turtle back scrapers, and guitar

pick scrapers, have all been used to refer to distal end scrapers. Likewise, flakes, flint, chips, and chert, are all terms frequently used to describe Debitage.

A simplified guide to artifact sorting is presented below. Here, it is assumed that the wide variety of artifacts typically found in this region has been recovered. In reality, however, this will rarely be the case. As such, if some of the artifacts listed below are not included in the actual items you are sorting, simply skip that step. As you will see, artifacts recovered will either represent bulk items or unique items. Bulk items refer to artifact types that are cataloged and bagged together by class. These include debitage, burned and unburned unmodified bone, fire-cracked quartzite, unmodified mussel shell, and other burned rock. Unique items, such as projectile points, other formal chipped stone tools, pendants, bone tools, and exotic trade items, should be assigned individual Field Specimen numbers. These items will eventually have their own artifact tag and be individually bagged in an appropriately-sized Ziploc bag.

Carefully empty the contents of the drying rack onto a sorting tray.

- A. Sort the artifacts into 4 piles consisting of **Stone**, **Ceramics**, **Bone** (including all tooth enamel), and **Everything Else**.
- B. Take the pile of **Ceramics** and set aside; it will not be further sorted.
- C. Take the pile of bone and sort into two groups consisting of Burned Bone and Unburned Bone. Set aside these materials; they will not be further sorted.
- D. Take the pile of **Stone** and split into groups consisting of **Chipped Stone** (including **Burned Chipped Stone**), **Groundstone**, **Battered Stone** (i.e., Hammerstones), **Heat-Modified Stone**, and then all **Other Stone**.
- E. Sort the Chipped Stone into piles consisting of **Debitage** (including Utilized and Modified flakes), **Projectile Points** (including Preforms), other **Formal Chipped Stone Tools** (i.e., scrapers, drills, and bifaces), and **Cores**.



Artifact Sorting and Catalog Code Key

Category	Code	Description
Bone	BON	Includes all unburned faunal remains, excluding shell (see below).
Burned Bone	ВВ	Includes all burned faunal remains, excluding shell (see below).
Modified Bone	МОВ	Includes any bone clearly modified into a tool (e.g., awls, hoes, digging sticks, and rasps).
Shell	SHL	All burned and unburned mussel shell is included in this category. Snail shells, unless modified in some manner, should be discarded. All bivalve and gastropod shells that have been modified into beads or pendants should be cataloged as ornaments (see below).
Debitage	DEB	Includes <i>all</i> chipped stone flakes <i>and</i> utilized flakes (see Obsidian below). Formal tools (i.e., projectile points, scrapers, drills, and knives) are separated into the Chipped Stone Tool category.
Obsidian	OBS	Obsidian, an exotic toolstone to the region, is sorted into an individual category. Since this material is easily identifiable by laymen it is the only nonlocal toolstone separated out in the sorting stage of laboratory work.
Projectile Point	POP	Includes all complete arrow and dart points and fragments of projectile points. If you believe that you may have a projectile point fragment, but are not certain, classify it as a Chipped Stone Tool.
Chipped Stone Tool	CST	Includes all <i>formal</i> chipped stone tools, except projectile points. Formal tools included here are scrapers, drills, and knives. Utilized flakes are not included here (see debitage above).
Core	COR	Pieces of isotropic material (e.g., Alibates, Ogallala quartzite, obsidian, Edwards chert) bearing negative flake scars and commonly known as cores are separated into this category.
Burned Rock	BR	All burned rock, except fire cracked quartzite (see below) and chipped stone debitage and tools, are included here. In the Texas panhandle items in this category usually consist largely of burned caliche.



Artifact Sorting and Catalog Code Key

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Category	Code	Description
Fire Cracked Quartzite	FCQ	All quartzite pebbles bearing evidence of burning, usually in the form of fracturing, are included in this category. These items are separated from other Burned Rock (see above) because Quartzite pebbles were often used as boiling stones. With repeated heating and cooling quartzite boiling stones frequently shattered.
Other Rock	OR	This includes other rock that does not apply to any of the above categories. If the rock is not modified by burning, flaking, abrasion, or battering, then it should be discarded. If you have any questions ask your lab supervisor!
Charcoal	C14	Includes all burned organic samples, excluding bone and shell (see above).
Groundstone	GRS	Includes all rock, other than chipped stone, modified by grinding. This category includes abraders, manos, metates, and celts. Note: Pipes and ornaments are not included in this category. cataloged as ornaments (see below).
Hammerstone	HAM	All rock, excluding chipped stone, with evidence of battering.
Ceramics	CER	Includes all ceramic sherds. Do not sort out by sherd type, such as rim and body sherds.
Ornament	ORN	Includes all ornaments, such as shell, bone, and stone beads and pendants. Most commonly these include <i>Olivella</i> shell beads, marine shell disc beads, and turquoise or microline beads and pendants.
Organics	ORG	Include unburned organics. Note: Does not include bone or shell (see above). Note: Very rarely are unburned organics recovered in open sites of the region.
Sediment Sample	SOS	Category for any type of soil sample collected in the field. Be sure to record the sample size in liters.
Pipe	PIP	Includes all types of smoking pipes.
Daub	DAB	Includes all other fired and unfired clay not classified as Ceramics.
Special Sample	SPS	Category reserved for all samples collected in the field (e.g., phytolith Sample).
Other	ОТН	Catch all category for any other cultural material that does not fit into other categories.

- F. Take the pile of debitage and sort into 2 groups of raw materials consisting of **Obsidian** and **Everything Else**. Set aside all of the sorted **Chipped Stone** materials; they will not be further sorted.
- G. Take the pile of **Groundstone** and sort into groups consisting of **Manos**, **Metates**, **Abraders**, and **Unidentifiable Groundstone**. Set aside all of the sorted **Groundstone** materials; they will not be further sorted.
- H. Sort the **Heat-Modified Stone** into piles consisting of **Fire-Cracked Quartzite** and All **Other Heat-Modified Rock.** Set aside these materials; they will not be further sorted. Burned chipped stone flakes and tools should not be included here; they should be kept with the chipped stone.
- I. Take the remaining items and sort into piles consisting of **Shell** (this should include only mussel shell; we are not collecting snail shells unless they have been modified), **Charcoal**, **Ornaments** (including, shell ornaments), **Pipes**, and **Other** (a catch-all category that includes everything else that is remaining).
- J. At this point the sorting should be complete. If you are in doubt as to the identification of any items contact your lab supervisor for help. If you do not know what something is, do not guess, ask for help!

Step 4 Filling Out Artifact Catalog Record Forms

Lab personnel will use the following tools for cataloging and filling out artifact tags: a pencil, a catalog form, artifact tags, a sharpie marker, a digital scale or triple beam balance, aluminum foil, Scotch tape, and an assortment of different-sized Ziploc bags. At the top of the Artifact Catalog Record form record all of the appropriate provenience information using a pencil. Note that you should only use a pencil to fill out Artifact Catalog Record Forms and Artifact Tags. Be sure that the provenience information is correct and matches what is recorded on the field sack and Level or Feature Forms. Record *your* name and *today's* date in the appropriate blanks. Do not enter the names or the date recorded on the field sack. Taking the artifacts you have just sorted into individual piles, begin cataloging with those categories that have the most numerous



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	01

ARTIFACT CATALOG RECORD

Site:	Area/T.U. #:	Northing:	Easting:	Level:
Catalog #:	Name): :		Date:

Artifact Description	Material	Portion	Burned	Count	Weight (g)	Comments

items to those with the least plentiful artifacts. For prehistoric sites of the region, bone, debitage, and heat-modified stone will often represent the most numerous items recovered.

Bulk items that will be counted, weighed, and assigned a single specimen number include debitage, ceramics (i.e., sherds), shell fragments, sandstone fragments, burned caliche, and heat-fractured boiling stones from the same provenience. Bulk items that should be weighed only (not counted) and assigned a single specimen number include burned and unburned unmodified bone, charred organic material, daub, and burned earth from the same provenience. Individual items which receive individual specimen numbers and are weighed include complete and partial bone tools, complete and partial chipped stone projectile points, tools, and cores, groundstone artifacts, hammerstones, complete and partial shell tools, ornaments, utilized hematite, pipes, and any imported material such as southwestern pottery and turquoise.

Starting with the first class of artifacts, such as bulk, unburned bone, assign a "1" in the **FS** # (i.e., Field Specimen #) column of the form. As you fill out additional lines, continue to assign FS numbers sequentially. If artifacts from a given provenience are so numerous that a second Artifact Catalog Record Form is needed, continue assigning FS numbers in order (i.e., do not start over with FS #1). Under the **Artifact Description** column write "Bone". In the column labeled **Material**, record "Bone". Under the column labeled **Portion**, enter a "—". For unique items, such as a projectile point or bifacial knife, you may enter complete, distal, medial, proximal or whatever description is most appropriate here. For ceramics, you may enter either "Body" or "Rim Sherd".

Under the **Burned** column record "No". In the **Count** column enter a "—". For bone, burned bone, charcoal, and other small, highly-fragmented items that are difficult or very time consuming to count, we will only record weights. All other items will be counted and the frequency recorded in this column. If you have any questions regarding whether or not to count a class of artifact, consult with your lab supervisor. Next, weigh the bone on a digital scale or triple beam balance and record its weight in the Weight column. Note that we are recording weights in grams. Heavier items that exceed the capacity of the digital scale (i.e., 200 g) may be weighed on a triple beam balance scale. Enter any additional information that needs to be recorded in the **Comments** column.

For example, if the item is classified under **Artifact Description** as "Ornament", a more specific description of the item should be provided in the **Comments** column. Also, if the artifact is a mapped item, record its MI # here. Lastly, do not leave any blanks unfilled. If necessary, enter a "—" in a blank.

Step 5 Filling Out Artifact Tags

Once you have entered in all of the correct information for the bulk and unique items on the Artifact Catalog Record form you will need to fill out Artifact Tags. On the upper half of this tag you will fill out the appropriate provenience information (i.e., Site Name and Trinomial, Area Designation or Test Pit #, Northing, Easting, Level #, and the Absolute Elevation). Once again, be sure that this information matches what is written on your field sack, level or feature form, and the Artifact Catalog Record Form. Do not leave any areas blank on the Artifact Tag. On the next line record the Catalog #, Specimen #, and Mapped Item #. If the item was not mapped in the field, enter a "—" in the latter blank. On the next line enter the count, if appropriate (see above), the weight in grams, and the date of excavation.

When all of the artifacts for a particular provenience have been cataloged and tagged, record the total number of Artifact Catalog Record Forms used in the upper right-hand corner of each page (i.e., Page 1 of 2 and Page 2 of 2). Upon completion of your form(s), have your lab supervisor check your Artifact Catalog Record Forms and Artifact Tags for errors. If everything is correct, place all of the individual bulk items and unique items into appropriately-sized Ziploc bags with their completed tags. Do not use bags that are too large or too small. In some cases it may be necessary to place the Artifact Tag into its own 2" x 3" Ziploc bag to keep it from being damaged, and then place it into the larger Ziploc bag with the artifact or artifacts. This is often necessary with bulk items, such as fire-cracked quartzite, other burned rock, unmodified bone, and debitage, or with large individual items, such as manos, hammerstones, and bone tools. If you are not sure how to bag certain items, please consult with your lab supervisor.

Place all of the individually-bagged bulk items and unique items into an appropriately-sized Ziploc bag. Once again, please do not use a bag that is too large or too small. On the outside of this bag record the site number and catalog number using a

Sharpie marker (e.g., 41RB132-54). After recording this information on the outside of the bag, cover what you have written using a piece of scotch tape to avoid smearing.

Step 6 Boxing Artifacts for Curation

Upon completion of the above steps, place your finished bag in the appropriate artifact tub or box for that site and excavation unit. Within each box organize bags in ascending provenience code order if at all possible. Mark the end of the tub or box with a label marked with the site number, and area designation, test unit, and feature number if applicable.

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.