CONTENTS

1 EXCAVATION HINTS
1.1 MODIFIED BAULK DEBRIS METHOD
1.2 GRID
1.3 ELEVATIONS
1.4 LAYING OUT A RIGHT ANGLE
1.5 POTTERY BASKETS

2 FIELD PROCEDURES
2.1 HARRIS MATRICES
2.2 BASKET SECTIONS
2.3 COINS
2.4 BONES, ANIMAL
2.5 GRAVES
2.6 FLOORS
2.7 FOUNDATION TRENCHES
2.8 ROOF TILES
2.9 WELLS
2.10 SIEVING

3 NOTEBOOK PROCEDURES
3.1 STAMP
3.2 SAMPLE NB PAGES
3.3 SKETCH PLAN
3.4 WRITTEN RECORD (DEPOSITS)
3.4.1 Debris
3.4.2 Slope and direction
3.4.3 Color
3.4.4 Compaction
3.4.5 Composition
3.4.6 Distribution
3.4.7 Size of particles
3.4.8 Shape and roundness
3.4.9 Stratigraphic data
3.4.10 Relations
3.4.11 Boundaries to other horizons
3.4.12 Contemporaneity
3.4.13 Formation
3.4.14 Method
3.5 WRITTEN RECORD (BUILT FEATURES)
3.5.1 Compass orientation
3.5.2 Dimensions
3.5.3 Materials
3.5.4 Features
3.5.5 Relations
3.5.6 Contemporaneity
3.5.7 Architectural context
3.5.8 Burial records
3.6 PHOTO STAMP
3.7 BURIAL RECORDS
3.7.1 Heading
3.7.2 Location
3.7.3 Stratigraphic data
3.7.4 Nature of burial
3.7.5 Associated objects
3.7.6 Osteological data
3.7.7 Other observations
3.7.8 Skeleton sheets

4 LOTTING
4.1 PRINCIPLES
4.2 COMPUTERIZED FORM
4.2.1 Grid
4.2.2 Stratum
4.2.3 Elevation
4.2.4 Notebook
4.2.5 Weight
4.2.6 Date
4.2.7 Sample Lot sheet

5 POTTERY READING
5.1 SORTING
5.2 READING
5.3 POT SHEETS
5.3.1 Lot
5.3.2 Pottery weight
5.3.3 Saved pottery
5.4 SAMPLE POT READING PAGE

6 INVENTORYING
6.1 POTTERY
6.1.1 Dimensions
6.1.2 Description
6.1.3 Standard terms for description
6.1.4 Decoration
6.2 LAMPS
6.2.1 Dimensions
6.2.2 Description
6.2.3 sample descriptions
6.2.4 Decoration
6.2.5 Terms
6.3 FIGURINES, STATUARY
6.3.1 Dimensions
6.3.2 Condition
6.3.3 Material
6.3.4 Description
6.3.5 Decoration
6.4 ARCHITECTURAL TERRACOTTAS
6.4.1 Pan and cover tiles
6.4.2 Eaves tile
6.4.3 Antefix
6.4.4 Sima
6.4.5 Acroterion
6.5 INSCRIPTIONS
6.5.1 Description
6.5.2 Tooling
6.5.3 Text

7 FABRICS
7.1 COLOR
7.2 HARDNESS
7.3 APPEARANCE
7.4 FEEL
7.5 INCLUSIONS
7.5.1 Frequency
7.5.2 Shape
7.5.3 Identification
7.5.4 Voids
7.5.5 Porosity
This manual describes the present state of excavation and documentation at Corinth. It has evolved over four decades of digging in response to both the nature of the anthropogenic activities and the ultimate goals of the excavation; a diachronic archaeological and cultural history of Corinth. Most of the techniques described originate with the Corinth Excavations, others are the product of accumulated experience of excavations in the United States, Britain, Greece, the Near East, and on Cyprus.

1. EXCAVATION HINTS

1.1 MODIFIED BAULK-DEBRIS METHOD. The excavations apply uniform techniques for the identification and removal of contexts. The techniques are a modified form of the baulk-debris method (Fig. 1A) incorporating aspects of open area excavation. This involves the excavation of complete deposits to a uniform cultural horizon. Where practicable a large extent is opened up without intervening baulks (Fig. 1B) but more usually, to facilitate earth removal, contiguous blocks are excavated in succession (Fig. 1C). Instead of being dependent on baulks for sections, sections are placed when and where desired. Sections and Harris Matrices to show stratigraphical relationships supplement section drawings.

Experienced archaeological technicians trained by the excavations and overseen by the foreman do excavation. The area supervisors should also do a certain amount of excavation. Although their main responsibility is for recording a restricted portion of the site, excavation will help them to understand differences in color, composition and texture, which differentiate deposits.

The layers of debris are excavated in reverse order to their deposition yielding artifacts that date and define phases of human activity. Cultural material, including manufactured objects (pottery, coins, figurines, inscriptions, architectural elements, etc.) and by-products of human activity (animal bone, slag, charcoal, etc.) is saved for later analysis.

1.2 GRID. The overall grid at Corinth is based on the Greek Army Mapping Service coordinates. Locally each 5x5 meter grid square is further designated by an alpha-numerical notation on a grid with the east-west axis lettered from A to Z and the south-north numbered 1 to 50. The alpha-numerical grid is unrelated to other similar grids used elsewhere on the site and is here used only for the convenience of the recording system.

The limits of an area will usually coincide with the axes of the coordinate grid. In certain cases, areas may be defined in relation to the specific architectural features, such as rooms within a structure, but all measurements should still be related to the coordinate grid.

1.3 ELEVATIONS. For the sake of uniformity with other work on the site since 1960, all elevations are related to the benchmarks established from the Greek Army Mapping Service monuments then in use (Hesperia 1960 p.238). The main datum point of the Panayia Field Excavation is presently a large block of worn marble near the latrine: elev. 92.99m. (see NB878 p.3). Elevations are measured using a level and stadia rod. The height of instrument (HI) should be established each morning before excavation proceeds and again at the end of the working day. Excavators should check that the instrument is level before taking readings and must take care not to lean on or kick the tripod. Should the instrument require adjustment, they must reestablish the HI and inform all those who need to know of any change. Measurements should be taken to the nearest 0.01m. when the stadia rod is vertical. It is imperative that you calculate your elevations immediately.

Fig. 1. Excavation of a pit using A. the baulk-debris method (8 baskets), B. the open area method (1 basket) and C. the modified baulk-debris method (2 baskets).
1.4 LAYING OUT A RIGHT ANGLE. The hypotenuse of a right angled triangle where the adjacent sides equal the integer one is $\sqrt{2} = 1.4142$. If you want to lay out a 1 x 1 meter square the diagonals will measure 1.414 meters. $\sqrt{2}$ can be multiplied by the length of the sides desired:

<table>
<thead>
<tr>
<th>Length (m)</th>
<th>$2.0 \times 1.4142$ = Diagonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2.828 meters</td>
</tr>
<tr>
<td>3</td>
<td>4.243</td>
</tr>
<tr>
<td>4</td>
<td>5.657</td>
</tr>
<tr>
<td>5</td>
<td>7.071</td>
</tr>
</tbody>
</table>

1.5 POTTERY BASKETS. Each site is made up of discrete layers of cultural debris and features (fills and structures). The field recording of the excavation by grid or trench is, basically, no more than the isolation and identification of different soils by color, texture and hardness, and then the careful removal of each of those soils separately without contamination. In an open area excavation these would eventually be removed in their entirety (unless sectioned). In practice, however, certain walls and features may be left for future restoration and presentation making total removal of earlier contexts impossible. Each discrete deposit of soil and feature is called, in Corinthian excavation vernacular, a "basket". The basket is therefore both an object for collection, and the material collected from that unit; it can also be a floor, cut for a pit or a marble floor. Each soil, when dug, is given a unique combination number of notebook and basket (e.g.: NB776 B35). Definition of each basket includes distinguishing the full extent of the deposit, i.e. its length, width and depth within the area being dug and where it is.

2. FIELD PROCEDURES.

2.1 GENERAL. You will be given wooden tags by which to label your baskets. Each area has a different color. On the tag write in pencil, the area, date, notebook number and basket number. Do not assume that because you know your color, others will too; i.e., do NOT omit notebook number.

The "LAST IN, FIRST OUT" principle is the removal of the most recently deposited soil FIRST. In plain language this means that a pit ("bothros") must be isolated and dug before the earth into which it was cut is excavated. If this principle cannot be followed for some reason, a protective strip of soil or "baulk" should be left around the later soil, while the earlier soil is being excavated. Such a protective baulk will allow one to avoid contamination of the earlier fill by a bit of late soil that might inadvertently be removed with the excavation of the earlier basket.

Since contexts are dated by the latest material in them, it is essential to avoid contamination. Make sure, therefore, that you have removed ALL of the soil of any context before moving on to the next. Try not to interrupt the digging of one stratum by "holding the basket" in order to move or, to a second basket, with the idea that you will return to the first stratum later. There are times, however, when you will have made a mistake in deciding which is the latest fill. When you see your mistake, hold the basket begun and start a new one with the next basket number of the notebook; then return to the mistakenly begun basket when its time comes in the stratigraphic sequence.

When you straighten or clean a scarp for drawing or for photography etc. open a new, separately numbered basket. In your entry in the notebook write that this is a cleaning basket, but that most of its material equals that in baskets x,y,z. You will thus avoid adding material which cuts across more than one stratum to a pure, one-stratum basket. Saving the cleaning basket separately will allow the museum staff at the end of the season to select "contaminated" sherds from the mixed basket that may mend with pottery from a pure stratum.
As you record in your field notebook, realize that what you write will be examined, analyzed and weighed by future scholars wishing to publish the architecture, pottery, and misc. finds of Corinth. The future researcher will probably be less interested in absolute elevations above sea level or absolute longitudes than (s)he will be about the specific context and the material contained within it, the context's relation to other deposits, floors and features such as walls and pits. (S)he will be interested in proving or disproving a theory. For example, did the object fall from a niche along with B and C, and did the objects pocket together on the same floor?

An excavated stratum may be recorded by elevation above sea level and by its extent, spread or color. Future scholars will also want to know if a certain basket represents a floor level, and if (A) that floor is cut by a foundation trench, or (B) if the floor goes directly up to the wall or other architectural feature, or (C) if it goes over the top of the wall and thus covers it. In case A, the stratum that is cut by the foundation trench will have existed before the wall and its foundation trench, and will give a "pre-occupation" date; in case B, the stratum has accumulated after the foundation trench has been dug, or the wall/feature built. This will show that an object was found in an occupation level of the complex. In case C the stratigraphy shows that the building was abandoned before the deposition of the fill/object in question.

Your opinion should be stated and the evidence given in support of it, but argumentation is not necessarily possible or valid upon entry of any specific basket. Small conclusions or essays should, however, be added to the notebook whenever appropriate, in order to reinforce the detailed chronological sequence, to make clear the significance, and to make the sequence clear to the non-archaeological reader. When you dismantle an architectural feature of any sort, first describe it carefully, i.e., with elevations of the highest preserved point(s); be precise as to where the foundation stops, i.e., the elevation of the floor or stratum from which the foundation trench opens. If no foundation trench exists, say so and then give floor level (basket) upon which the wall was constructed. Include in your discussion ALL BASKET numbers that attest to a change in phase, e.g.: "Basket 5 covers foundation trench (Basket 6) and should be used as evidence for the first occupation of the room after erection of Wall A. Basket 10 covers destruction debris and goes over top of wall; it represents a chronological phase immediately after occupation and definitely attests to the destruction date of the building."

Other descriptions helpful to the scholar who will be reading your notebook are: the sequential numbering of all walls in your notebook and equating those walls to the walls that appear in notebooks of other seasons and in adjacent grids. Describe the size of stones of walls, whether cut or re-used, whether coursed or supplemented with tiles, and whether or not they join at corners with walls they meet, or do they not bond. This last is a criterion of contemporaneity.

Each time that you start to excavate a new context (open a basket), Take representative elevations of the deposit; if the stratum runs into the side of a scarp, along the scarp edge. Also take highest and lowest elevation of the upper surface of the basket. In the case of a wall, take an elevation on the highest preserved stone, last stone at both ends of the wall and/or the last stone before the wall disappears into a scarp.

Make a Harris Matrix and Basket Sections (see below).

2.2 Harris Matrices. In 1975 Harris published and copyrighted the Harris Winchester Matrix. This is not a matrix at all but rather a two dimensional diagram which portrays the three dimensional relationships between excavated contexts. Since then numerous books and articles have been written on the subject as well as at least two computer programs to help assemble the diagrams.

There are five basic time relationships which exist between contexts:

A. 1 is later than 2. This is the immediate chronological relationship, see example below
B. 1 is earlier than 2
C. 1 is contemporary with 2. This relationship can only be determined from material culture or from full understanding of the site: e.g. wall 1 bonds with wall 2
D. 1 equals 2. In other words the same context excavated in two or more operations or contemporary lenses of dumped fill.
In constructing a Harris matrix it is the stratigraphic sequence which is of importance. A context may overlie several other strata but it is the latest strata which is relevant. Similarly, a foundation trench may cut through several earlier contexts but the important link that with the latest stratum it cuts. All anthropogenic features are included: the actual cut as well as the fill, walls, floors and deposits of whatever nature.

**Example:** In the section 1 is later than two lenses, 2 and 3, which are cut from the surface of 4. 1 is indirectly later than 4 and 10 with which it has interfaces, but the relationship is not recorded or shown when constructing the diagram.

2.3 **Basket Sections.** Basket sections are a useful tool to show stratigraphic relationships, as excavated, if they are systematically used with top plans. For each basket show a cross section through the stratum showing its relationship to features, and baskets above and below. At the end of the excavation of an area, the end of the season or the end of the notebook make composite sections in the notebook.

The only way of representing all the excavated contexts and their vertical and relative chronological relationships is by constructing a Harris Matrix.

2.4 **Coins:** locate each coin that is found by measuring its absolute elevation, and take a measurement from west scarp and south scarp or grid line. Indicate the position of the coin on the basket sketch in your notebook.

2.5 **Bones, Animal:** Only keep bones from levels that provide a good sample. Such samples are obtainable from deposits such as bothroi, wells, house destructions, kitchens of any type of building, sometimes from roadways if the fill thereon is thick and appears to be garbage that was thrown out onto the road from adjacent building. These bones will be labeled with the same basket number as that of pottery basket. Once digging season is over, these bones must be processed by the excavator; if kept, the bones will be given a special and discrete bone lot number for each set.

2.6 **Graves:** In addition to the notebook basket number(s) Each grave is given a unique running number (e.g.: Grave 1998-1). Even graves without bones are assigned such a number. If a grave is a multiple burial, number the various skeletons separately but give one grave number. Each skeleton will be given a separate bone Lot number. For recording a grave in the notebook, see below.

2.7 **Floors:** A floor can be recognized as a crust of hard-packed earth. Describe relation of floor to any visible architectural and other features (foundation trench cuts, pits, hearths etc. On coming down on a floor, clean it well before changing basket, then remove the crust. Change basket to excavate the underlying fill. Often you will find several superimposed or repaired surfaces - repeat the process of
cleaning and removal as often as is necessary. In the case of repairs, remove the repaired part separately from the original floor.

2.8 FOUNDATION TRENCHES: Examine all fills that run up to a wall or a foundation to see whether a soft zone can be distinguished against the wall face. Chances are that the foundation will have a 10 to 40 cm. wide soft zone along its side. A very narrow soft area immediately against the face may not be a foundation trench; rather, this softness may be the result of root systems or water action. If a trench of soft earth is distinguished and separates, dig it separately. This basket, together with the basket used for the dismantling of the wall itself, will provide a date of construction for the wall. If, however, the wall is light and its foundation light, or if the wall has no rougher lower segment, or if the wall is built directly upon the remains of an earlier wall, no foundation trench will probably exist. In these cases, probably a general fill has been brought in and spread over the whole area to serve as a new floor.

If the foundation is Roman and constructed in rubble and mortar, the chances are that the foundation may not have a distinguishable trench. In such a case the foundation material probably has been dumped directly into the whole of the open trench with the walls of that trench serving as the containing framework.

2.9 ROOF TILES: If you have a fall of roof tiles, collect the tiles, weigh then, tell whether they are Sicilian, Corinthian or Laconian, and give percentage of each by weight. No need to weigh the tiles if they are part of a dumped fill or are random finds. If a complete profile can be reconstructed, sketch the tile and give its dimensions (L x W x Th x H).

2.10 WELLS: Each well discovered is given a serial number within the year (e.g. well 1991-2). When starting the excavation of a well, establish an elevation point at the mouth of the well. Use this point to measure the depths of the fills within the shaft. Every well shaft is excavated in units of 50 cm. depths each. Change baskets even if the shaft soil does not change color or texture within that 50 cm. If the soil does change within a basket change the basket immediately even if you have only just changed a short time before. Generally the earth from within a well is too waterlogged to recover material culture as it is excavated. Set out plastic sheeting on which to pile the excavated earth to dry. Keep contexts separate and marked with tickets. The earth can be 100% sieved when dry.

2.11 SIEVING: No strict policy is yet applied to sieving. Certain contexts will be more rewarding than others and it is essential to consider what kind of data you are seeking before determining the proportion, mesh size and method of sieving. Please do not sieve topsoil/plow zone unless you have lost a contact lens. Pits, hearths, floors and robbing trenches are all good candidates. Mounted stacking sieves can be operated by the area supervisor or one workman. There will be three grades of mesh: 1. large for breaking up clods; 2. medium for pottery and large bone fragments and 3. fine for glass, coins, chipped stone and small bone. There is also a water sieve that operates at Pietrie.

2.11.1 Pollen. Although limey soils, such as those at Corinth, are not good for pollen preservation, the microchemistry of certain isolated contexts may be ideal. In such an event, a small sample should be set aside for water sieving.

2.11.2 Seeds. Carbon does not stand up well to the mechanical process of sieving and even carbonized pits can be severely damaged. Water sieving is best. If a deposit also has large volumes of other material to be recovered, put aside a proportion for water sieving and dry sieve the rest.

2.11.3 Coins. The pickmen and shovelmen have an excellent eye for coins and recovery rates are generally very good. If you perceive a problem with their attention span, sieving a proportion, say 5 or 10% , keeps them on their toes. I have found that sieving for coins rarely produces coins in the sieve but does increase the number found in the soil itself.

2.11.4 Pottery. Some contexts you may want to squeeze for dating evidence - some fills may contain an overwhelming majority of early material and you want to see if there are a few later pieces - sieve a proportion. Sieving pottery deposits ensures almost complete recovery and is excellent for statistical purposes - sieve 100%. Sieving for pottery mudbrick results in huge quantities of tiny sherds reused as temper for the mudbrick - a good experiment to prove a point but not a good habit to get into.
Bone. Contexts with reasonable quantities of bone should be sieved 100% for statistical purposes. Take care that the bone will withstand the mechanical process - waterlogged horn cores are very fragile. We are looking for bones of different size, ranging from rodent and sprat up to buffalo therefore different sieve sizes should be considered. Choose the appropriate sieve(s) and note its size and the ratio sieved in the notebook. It is a good idea to consult with the Director.

3 NOTEBOOK PROCEDURES:

3.1 GENERAL. Before starting to describe what is in your trench, describe where, in the overall picture of the excavation, you are laying out your trench. Use grid references. In years from now, when all strata and architectural fixed points have been removed down to Paleolithic levels, the relation or your trench to a fig tree at modern ground level will not be helpful.

Note what has or has not been dug to the north, east, south and west of your grid. Give overall dimensions of your grid or trench. If it is a trench, and not a grid, tell how it is oriented. If something has been dug already on any side of your trench, tell your reader in which notebook (s)he can find that excavation. If you are digging a grid that is close to a known or published feature, name that feature and tell the reader how many meters down (down to the cm.) you are from it and in what direction. Any help on general orientation at the beginning of a notebook or season's dig will be helpful as the years pass.

ALL CORINTH NOTEBOOKS START WITH THE BASKET NUMBER "1", and from there SHOULD BE NUMBERED SEQUENTIALLY. If you start recording a new season's excavation in a notebook already partially used, or if you open a new area or grid within an already used notebook, continue to number baskets sequentially within the book you are using by taking the next number after that last used. EVERY NOTEBOOK SHOULD HAVE ONLY ONE BASKET #1. No duplication of basket numbers is allowed within any single field notebook.

Each different soil is assigned a separate basket number. Never give a single basket number to two similar soils that are separated by a feature, such as a wall, or are separated by a different soil. You may find that what you have assumed to be the same soil, because of its color and texture, is, in fact, not the same. By giving them separate numbers, you may easily combine the baskets later in the lotting process if they indeed turn out to be the same, but it is impossible to subdivide two inadvertently combined baskets.

When you find that one basket in your trench has filled up with pottery before the soil has changed quality, assign the same number with "b" to the second part, "c" to the third, etc. Do not add a new basket stamp in your notebook for each of these new parts. NOR should you add a new basket stamp in your notebook at the beginning of a new day, if the first basket of the day is a continuation of one started the day before.

The date should appear at the top of every page.

EACH BASKET has three or four recorded components which together will probably occupy at least one page and probably as much as two pages. These components are

1. A stamp the top of the page with the date of the day of excavation.
2. A scaled plan and section.
3. A written record describing and interpreting the deposit or feature.
4. A photograph stamp if a photograph was taken.

3.1 STAMP see samples below §3.2

The lot entry at the top of the stamp is a number that is assigned at the end of the season when, and if, the basket is saved and stored (c.f. "Lotting" below).

3.1.1 GRID: is the alpha-numeric grid square(s) in which the basket falls.

3.1.2 LOT: if the pottery or bone from the context is lotted (see below), enter Lot number(s) here. If the pottery has been thrown, mark “thrown” here.

3.1.3 CHRON RANGE: is the date ascribed to the context when the pottery and coins have been read. This should be filled in only after analysis of the sherds has been made at the sherd table.

3.1.4 EL: from gives the top and to the bottom elevations of the basket. These are taken with a mechanical level; if the strosis is sloping or otherwise uneven, more than one top/bottom should be recorded. Do not omit this data. If there are multiple readings show them all on your top plan drawing.
3.1.5 STRATUM: A short discussion of quality of soil - color, texture, hardness should be entered in the basket stamp in addition to a more detailed discussion in the text following the sketch. See §3.2 below for further discussion.

3.1.6 POTTERY: Here you write, a, b, c etc. to indicate how many containers (zembils, rubber baskets) sent in, or if only a box or envelope, note that. It helps, when hunting for a lost pottery basket, to know exactly what and how much it was.

3.1.7 OTHER FINDS: List here how many envelopes/boxes of different materials were sent into the museum. You can put several objects of the same material in one envelope, but keep glass separate from iron, etc.

3.1.8 INVENTORIED: List the numbers of inventoried objects from the basket. Note: When any object of importance is found (whole pot, figurine etc.), and might be catalogued, record its exact elevation above sea-level, and put it in an appropriately sized envelope/box with a tag. You will need the elevation when you inventory the object in the museum.

3.1.9 COINS: Each coin will be put into a separate envelope with its specific elevation written on the front of the envelope in pencil, as well as the basket/Notebook number. Enter coin elevation in basket stamp of notebook. NO COIN NUMBER WILL BE ASSIGNED IN THE FIELD. A final coin number (sequential for site, 1992-46) will be assigned by you in the museum at the end of each day's excavation. Until that time the elevation number entered under the coin entry of the stamp and the elevation number written on the envelope (+ Notebook, basket) will be the only identification of any specific coin. When you have the inventory number, enter it here.

3.1.10 BASKET OVER/UNDER: Shows the basket numbers of contexts immediately above and below the context being excavated. Write the number of this basket in the middle row and the numbers of baskets immediately over and under in the rows above and below. From this data you will be construct your Harris Matrices; therefore it is essential to go back to previous contexts noted and enter the baskets below as well. If your stamp does not have this entry, draw one yourself.
3.3 **Sketch Plan. Each Basket** should ideally have a measured sketch plan at 1:50, with north oriented to the top or left, on the page opposite or below the basket stamp; in this the position and limits of the basket area are recorded in relation to other features such as walls etc. Elevations and find spots of objects such as coins, concentrations of pottery should also be marked. Mark the north arrow, and label features (wall 10, well 1991-2, etc.). Do not use colored pencils in these plans. Colors do not reproduce in Xeroxes nor when photographed on microfilm. (Sometimes if two baskets can clearly be drawn on one plan, then both can be put on a single plan, so long as that plan does not become too littered or confusing to read.)

3.4 **Written Record (Deposits)** In this section a written description ensues and should include the following headings divided according to whether the excavated context is a layer of debris or a built feature:

### 3.4.1 Slope Direction and Degree: Estimated compass orientation of the upward or downward slope of a soil layer. The degree of slope is not noted in numerical degrees but in qualitative gradations: slight, moderate, steep, vertical. For example, "slightly sloping down from NE to SW".

### 3.4.2 Color: A Munsell chart is not required - who has ever seen Munsell Colors of soils used to draw meaningful conclusions about a deposit? Ideally the sample should be moist but that is difficult in mid-summer in Greece. This should be kept as simple as possible and standardized. Color should always be assessed when the deposit is moist but not waterlogged. Use the terms in the table below (from C. Spence ed. (1990) section 3.1.1.2 and the Munsell Soil Color Charts (1994))

<table>
<thead>
<tr>
<th>MODIFIER</th>
<th>LIGHT</th>
<th>DARK</th>
<th>VERY DARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUE</td>
<td>GREENISH</td>
<td>GREYISH</td>
<td>YELLOWISH</td>
</tr>
<tr>
<td></td>
<td>BROWNISH</td>
<td>REDDISH</td>
<td>PINKISH</td>
</tr>
<tr>
<td>COLOR</td>
<td>GREEN</td>
<td>GREY</td>
<td>YELLOW</td>
</tr>
<tr>
<td></td>
<td>BROWN</td>
<td>RED</td>
<td>PINK</td>
</tr>
<tr>
<td></td>
<td>WHITE</td>
<td>BLACK</td>
<td></td>
</tr>
</tbody>
</table>
3.4.3 Compaction: The hardness or compactness of the soil layer.

<table>
<thead>
<tr>
<th>SEDIMENT</th>
<th>TERM</th>
<th>DEFINITION TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COARSE-GRAINED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>STRONGLY CEMENTED</td>
<td>Cannot be broken with hands</td>
</tr>
<tr>
<td></td>
<td>WEAKLY CEMENTED</td>
<td>Pick removes sediment lumps, which</td>
</tr>
<tr>
<td></td>
<td></td>
<td>with hands</td>
</tr>
<tr>
<td></td>
<td>COMPACT</td>
<td>Requires pick for excavation</td>
</tr>
<tr>
<td></td>
<td>LOOSE</td>
<td>Can be excavated with trowel</td>
</tr>
<tr>
<td><strong>FINE-GRAINED</strong></td>
<td>HARD</td>
<td>Brittle or very tough.</td>
</tr>
<tr>
<td></td>
<td>FIRM</td>
<td>Molded by strong finger pressure</td>
</tr>
<tr>
<td></td>
<td>SOFT</td>
<td>Easily molded with fingers</td>
</tr>
<tr>
<td></td>
<td>VERY SOFT</td>
<td>Non-plastic, crumbles</td>
</tr>
</tbody>
</table>

3.4.4 Composition: This refers to the proportions of different grain sizes within the deposit. When describing the deposit these differences should be noted: for example, if there is more sand to silt it should be described as a 'silty sand', implying that the deposit is not a pure sand but has some silt in it. (this can also be used to estimate percentages of stones or other inclusions; see 3.4 below).

3.4.5 Distribution/Sorting: Usually random in the case of dumped fill, water-sorted in the case of water-laid sediments, gravity sorted in tipped fill, etc. A complex depositional history often produced a complex particle distribution in a single stratum. This is a measure of the frequency with which particles of the same size occur see Fig. 12). For example, if the deposit consists mainly of coarse to fine pebbles, it is 'well sorted'. An appreciation of sorting gives some idea of the processes responsible for deposition.

3.4.6 Size of Particles: An estimate of each fraction of the deposit which amounts to more than about 10% of the whole deposit should be included in this element of the description. This includes clay, silt, sand and gravel particles and tile, bone, mortar, pottery, molluscs and organic material. Ask to see examples of the different size grades of sediment to familiarize yourself with them.
GUIDE TO THE DESCRIPTION OF THE COMPOSITION OF SEDIMENTS. Amended from C. Spence ed. (1990) section 3.1.1.1

3.4.7 Shape and Roundness:

SHAPE AND ROUNDEDNESS:
This information helps to determine the nature and origin of the deposit.

Rounded
Sub-rounded
Angular
Spherical Tabular Platy

3.4.7 Stratigraphic data: Partly observed during excavation and partly interpreted on the basis of its stratigraphic situation. It is BELOW and RUB MOIST SEDIMENT BETWEEN FINGERS

ABOVE what? What is its LATERAL EXTENT? What baulks does it touch?

3.4.8 Relations to Other Strata and Features: How does the basket relate to everything else it touches: lies above, below, cuts or is cut by, abuts or bonds to (in the case of walls), seals or is sealed by. Properly explains the nature of contact between strata and features.

3.4.9 Boundary to Next Horizon(s): This refers to lower boundary of a horizon only.

<table>
<thead>
<tr>
<th>SHARP</th>
<th>Change occurs over depth of 0.005 to 0.025 m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAR</td>
<td>Change occurs over depth of 0.025 to 0.050 m.</td>
</tr>
<tr>
<td>DIFFUSE</td>
<td>Change occurs over depth of 0.060 to 0.130 m.</td>
</tr>
<tr>
<td>SMOOTH</td>
<td>Plane boundary with few irregularities</td>
</tr>
<tr>
<td>WAVY</td>
<td>Broad, shallow and more or less regular pockets</td>
</tr>
<tr>
<td>IRREGULAR</td>
<td>Boundary with pockets deeper than they are wide</td>
</tr>
<tr>
<td>BROKEN</td>
<td>Interrupted boundary</td>
</tr>
</tbody>
</table>

3.4.10 Contemporaneity: A stratigraphic judgment based on relations with other baskets and on pottery reading.

3.4.11 Formation: Your provisional archaeological judgment of excavator of nature of stratum.

3.4.12 Method: e.g. Small pick; sieved 10% in 1cm sieve.

3.5 WRITTEN RECORD (BUILT FEATURES), i.e., a wall, a room, a well, a hearth, whatever, make sure that you have described it precisely, i.e.:

3.5.1 Compass Orientation: Approximate only WNW-ESE.

3.5.2 Dimensions: Length, width, height, thickness, depth (wells). Number of courses and rows wide if appropriate.

3.5.3 Materials: From which it is made e.g., a dry wall with re-used poros blocks, tiles, marble fragments; or, ashlar wall with or without binding agent. Dimensions of the materials, e.g. blocks and bricks.
3.5.4 Features: Are any windows or doors preserved? If so describe and record dimensions.

3.5.5 Relations to Other Strata and Features: How does the feature relate to everything else it touches: lies above, below, cuts or is cut by, abuts or bonds to (in the case of walls), seals or is sealed by. What were the associated floor(s), foundation trenches etc. In the case of WELLS state depth at which water level reached.

3.5.6 Contemporaneity: A stratigraphic judgment based on relations with other baskets and on pottery reading.

3.5.7 Architectural Context: When a room has been completed devote a section to describing the room, its associated features, walls, contexts (pits, postholes, floors etc.) and its relationship to other rooms, streets etc. Do not forget phasing, repairs and dimensions.

3.6 PHOTOGRAPH STAMP: In the event of photography stamp the page(s) for the appropriate number of shots. If it is not possible to fit it on the page, enter a note to the page on which the stamp appears. Enter the required details.

3.7 BURIAL RECORDS: In the notebook
1. Make a sketch of grave and of skeleton within it.  
2. Give dimensions (length, width) and construction of grave (e.g., a cist cut into earth; lined with roof tiles - describe type and dimensions, etc.). 
3. Give overall length of skeleton, elevation of top of skull elevation of earth after skull has been lifted. Describe position of body, head, limbs, and observe any offerings or burial practices 
4. Give compass reading from north of position of skeleton.

3.7.1 Heading (each page)  
Burial no.  Date 

3.7.2 Location  
a. General 
b. Horizontal distances to other known points 
c. Vertical distances to ground surface or other strata 

3.7.3 Stratigraphic data (include section sketch where useful)

a. When excavated and by whom 
b. Nature of grave - PIT/CIST- other visible data (give dimensions) 
c. Matrix- color and texture of soil, etc. in and around grave 
d. Relationship to other strata- from what level was grave dug? 
e. Associated features. 
f. Disturbances - subsequent excavations or building.

3.7.4 Nature of burial (include detailed sketch plan on graph paper)  
a. General position of body- extended, semi-flexed, tightly flexed or other; on side, on back, face down other (include stick drawing) 
b. Orientation - compass bearing from pelvis to skull; head direction relative to slope and/or features; facing direction 
c. Dimensions - max. length and direction; max. width and direction; max. thickness 
d. Primary vs. secondary burial  
e. Detailed position of body parts- r and l arm; r and l leg; trunk; head 
f. Posthumous shifting of bones- ground pressure, burrowing animals, etc. 
g. Remarks.

3.7.5 Associated Objects (clothing, ornament, offerings) 
a. List items with catalog numbers 

3.7.6 Osteological data 
 a. Bones absent or present, if easier 
b. Bones broken and how they probably got broken 
c. Artificial deformation- distinct from ground pressure 
d. Observable pathology 
e. Condition of bones 
f. Significant measurements where condition is poor 
g. Sex- m. f. or indeterminate 
h. Age- neonate, infant, child, adolescent, adult 

3.7.7 Other observations or remarks 
a. Relationship to surrounding features 
b. Probable relative period of placement 
c. Cross reference material filed separately 

3.7.8 Obtain a Skeleton Sheet (see example following) and fill it in as far as “femur” dimension
4. LOTTING:

4.1 PRINCIPLES: Lotting is the process by which you record the material that is to be saved and permanently stored from your trench, it is done at the end of the excavation season.

You should keep careful record of what baskets have been saved and what baskets have been discarded during each afternoon pottery session with the Director, by always marking the pottery sheets, supplied for the potting sessions, "Thrown" or "Saved". Also keep record of any parts of a basket that may have been thrown, such as coarse body sherds, etc. A basket from which only 1-2 sherds have been kept for the excavation study collection is considered "thrown". Therefore,

1. At the end of the season you will then know what you have kept in the course of the season and what you have thrown. On paper organize the saved baskets stratigraphically, associating those which derive from the same stratum, and generally relating one to another in a historical and stratigraphic sequence. For example:
   a. B76 is the removal of floor associated with wall 1.
   B78 is a foundation trench for wall 1 covered by floor 2.
   The two baskets should be kept separate as two different historical phases, and therefore also as two different lots.
   b. B48 is a reddish tile debris.
   B50 is a brown rubble layer beneath B48
   B52 is the clay floor beneath this.
   B48 and B50 can probably be united as one debris and lot overlying the floor (B52) and the floor, B52 is a separate lot.

2. Having put together your sequence, discuss it with the director in order that you may both agree as to what should be combined, kept or thrown.

3. Having determined how many lots you need, get lot numbers from the Assistant Director and fill then out the computerized form (see below)

4. When you have completed the sheets, write the lot number in the basket stamp of your field notebook, beside "LOT", also in the pottery notebook for each basket cited. All other baskets should be marked "thrown" in both books, unless for some reason they are to be saved for future digging and not immediately lotted; then mark "saved".

OSTEOLOGICAL DATA: Condition

Length heel to crown: femur:
Sex:  Age:
Observable Pathology

ASSOCIATED OBJECTS DESCRIPTION
5. With a marking pen write lot numbers on all wooden basket tickets and on the outside ends of all boxes. If time permits, also Pencil lot numbers on small find envelopes in Museum. DO NOT YOURSELF PHYSICALLY COMBINE BASKETS.

4.2 COMPUTERIZED FORM

4.2.1 Grid: Enter grid or co-ordinates.

4.2.2 Stratum: Not just a description of soil color (i.e. pebbly red fill which will be meaningless to people subsequently referring to your Lot, but, an architectural or historical interpretation of it; also tie the stratum into a building where possible (as above.).

4.2.3 Elevation: Top and bottom of basket; if several baskets combined in lot, top of highest, bottom of lowest.

4.2.4 Notebook: Page and basket. Date is date when basket was first stamped into NB only; if you used the same basket number for 6 days, it is irrelevant.

4.2.5 Weight: A LOT IS A ONLY A DESCRIPTION OF WHAT HAS BEEN SAVED. Therefore, if parts of a basket have been or are to be discarded, do not include them in your description. The weight is thus the total of what has been saved. Thereafter, list the pottery and small finds as they appear on your pottery sheets; in other words, give the total number of sherds for each category of pottery as they are listed on your field pottery sheets, e.g.: Weight: 7.88kg.

4.2.6 Date: This is the chronological date of the Lot as established during Pottery reading.

4.2.7 Sample completed Lot form

| Lot: 1992-001: Temple E SE (general area) |
| Grid: 94-95:ZZ |
| Stratum: Destruction debris in Room 1 of Unit 1, Frankish complex. |
| Elevation: +75.868-70.689 |
| Notebook: NB709 P86 B54 May 12 P68 B68 May 14 |
| Lot Immed. Above: Lot 1992-4 |
| Original weight: 560 kg. |
| Saved weight: 65.89 kg. |
| Pottery: (description follows): |

Fine Ware: 22 sherds
- 6 African red slip plates Hayes form 10
- 6 classical black glaze kantharoi
- 10 other Roman red wares

Coarse Ware: 754 sherds, including:
- 6 mortar rims, 4 feet, 10 handles, 40 bodies.
- 5 Aegean red amphora rims
- 3 Dressel 8 rims, 4 toes 8 handles, 500 bodies (if kept)

Cooking ware: 354 sherds:
- 4 late Roman stew pots with outturned rim
- 3 round-mouthed pitchers, 4 strap handles
- 347 bodies

Lamps: 3 Howland 21, 4 Broneer type XXVII
Other finds: 5 blown glass cups, 4 frescoes, 3 iron nails, etc.

Coins: 1992-1: Augustus 14 B.C. (date to be supplied by numismatist).

Date: Third quarter 4th c. A.C.
Inventoried: C-1992-5: Arretine Plate
5 POTTERY READING:

5.1 SORTING: Every afternoon and on Saturdays it is the supervisors' responsibility to sort the pottery from their area and to help each other to complete the work. Even if your material is already sorted, others will appreciate it if you help them. The Director can generally read one or two areas worth a day. Material should be sorted by ware with rims, bases, handles and sherds of each ware laid out contiguously. Although this sounds daunting, the intent is that the supervisor will learn something of ceramics during the course of the season.

5.2 READING: The Director reads the sorted pottery with the assistance of the supervisor responsible for the area. As far as possible, standardized forms are used to identify pottery but inventory numbers and published references may also be used. The supervisor acts as a scribe neatly writing the information proffered on specially prepared pot sheets.

5.3 POT SHEETS: Pot sheets contain a description of the material culture within a context. Since many contexts are eventually discarded or partially discarded these sheets are an important part of the excavation record. At the end of the season they are bound together by area as a book and shelved with the accompanying notebooks in the excavation archive.

5.3.1 Pot Lot: At the end of the season during the lotting process enter the Lot Number here. If the context was thrown then write “thrown”. Frequently only one or two sherds will be saved from a context. They are stored in a special Lot created for the purpose of general finds not thrown – note the general Lot number.

5.3.2 Pottery Weight. This is count and weight of pottery before discarding. Enter the count and weight of sherds by category here and the total weight at the bottom.

5.3.3 Saved Pottery: This represents the count and weight of pottery saved. Sometimes only a couple of sherds will be kept but it is still necessary to note the fact.

6.3.4 SAMPLE PAGE:

POT LOT # 1998-012 CHRON. RANGE E 7th AC
Basket 86 NB 891 P 122
AREA PANAYIA GRID/TRENCH G-12

STRATUM Fill of Robbing trench Wall 2

POTTERY
Fine/Glazed # 22 wt. 0.036
Semi-fine # 36 wt. 0.096
Coarse # 1243 wt. 32.350
Cooking # 86 wt. 1.720
Total # 1387 wt. 34.202

Fine Ware: 22 sherds
  6 African red slip plate rims as Hayes form 10
  6 bs classical black glaze kantharoi
  10 other Roman red wares

Semi-fine: 36 sherds
  2 rims as C-1997-037
  7 red washed table amphora bs
  25 other bs

Coarse Ware: 1243 sherds, including:
  6 mortar rims, 4 feet, 10 handles, 40 bodies.
  5 Aegean red amphora rims
    3 Benghazi LR Amph 2A, 4 toes 8 handles, 500 body sherds (ie. bs)
  17 Palestinian amphora rims, 6 handles 420 bs
  6 carrot shaped amphoras in Palestinian fabric, 220 bs

Cooking ware: 86 sherds:
  4 late Roman stew pots with outturned rim as C-1997-034
  3 round-mouthed pitchers, 4 strap handles
  79 bodies

SAVED POTTERY # 1387 wt. 34.202
OTHER FINDS 1 iron nail, 1 bag glass, 1 bag bone, 3 lamps

Coins: 98-236 Honorius (408-23); C-97-15
6 INVENTORYING NOTES:

6.1 POTTERY:

6.1.1 Dimensions:
Height = H; Diameter = D; Thickness = T; Maximum = max
A. If full profile preserved: Height = Actual
   If much of profile preserved: Height (in so far as preserved) = preserved Diameter foot,
   Diameter max. ( = body, if greater than rim/lip)
   Diameter max lip/rim
B. If a fragment, and orientation clear, then take:
   Height
   Width
   Thickness, if unusual
   If a fragment, and orientation unclear, then:
   MPDim = maximum preserved dimension
In general, all dimensions are considered maximum and do not need to be specified as such, unless you are trying to distinguish between two dimensions. E.g., if a handle projects above a rim, you might want: H00.000 (rim) H00.000 (max)

Description: From bottom up, outside first, then in, if significant. **Start with what the object is** “Cup with / plate with…” Shape only (not decoration or state of preservation), in following order:
1. Foot
2. Resting surface or bottom, if no foot
3. Undersurface describe whether flat, convex, nippled, etc.
For descriptions of Foot, resting surface and bottom use terms illustrated in section 6.1.3
4. Body – use terms shown in section 6.1.3
4B. Shoulder, if distinct from body
5. Neck, if a closed shape
6. Rim/Lip: every vessel has a lip: is the upper edge; not every vessel has a rim: it is an articulation or thickening of the mouth of the vessel – use terms shown in section 6.1.3
7. Handle– use terms shown in section 6.1.3
8. References to parallels for shape.

6.1.2 Description: From bottom up, outside first, then in, if significant. **Start with what the object is** “Cup with / plate with…” Shape only (not decoration or state of preservation), in following order:
1. Foot
2. Resting surface or bottom, if no foot
3. Undersurface describe whether flat, convex, nippled, etc.
For descriptions of Foot, resting surface and bottom use terms illustrated in section 6.1.3
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6. Rim/Lip: every vessel has a lip: is the upper edge; not every vessel has a rim: it is an articulation or thickening of the mouth of the vessel – use terms shown in section 6.1.3
7. Handle– use terms shown in section 6.1.3
8. References to parallels for shape.

6.1.3 Standard terms for descriptions:
6.1.4 Decoration: From bottom up, outside first, then in if significant. Or, for medieval pottery, where important decoration of open shapes on interior, interior first, then exterior.

1. First, grooves or relief decoration: e.g., grooves, wheel-ridging, combing, fluted
2. Glaze/slip: glaze generally used for black color on pre-Roman pottery, or for vitreous Byzantine decoration; slip used rather than glaze for Roman pottery.
3. Painted decoration (note can also have burnishing)
6.2 LAMPS

6.2.1 Dimensions:
1. Height to rim
2. Max. Height = Height to handle, if handle extends above rim.
3. Length: from tip of handle to tip of nozzle
4. Diameter of foot, rim

6.2.2 Description: First, Mold or hand made then general type, then:
1. Foot or bottom
2. Body
3. Rim
4. Disc (if Roman)
5. Fill hole
6. Nozzle (and air hole, if Late Roman), wick hole
7. Handle

6.2.3 Example descriptions:
Greek: lamp with vertical ring foot, deep convex body, flat rim, large fill hole, long nozzle, flat on top with small wick hole at tip. Horizontal strap handle.
Roman: flat bottom, echinoid body, narrow rim, deep concave disc with three fill holes, small air hole at base of short U-shaped nozzle, small wick hole, vertical lug handle, pierced and grooved.

6.2.4 Decoration:
1. Relief or impressed, if it exists
2. Slip/glaze.

6.3 FIGURINES, STATUARY:

6.3.1 Dimensions:
Height = H; Length = L; Width = W; T = Thickness
Only what would be anatomically important: Height, Height head, Width shoulders, etc.
If a base, length, width, height.

6.3.2 Condition: In somewhat general terms, e.g., Six joining frgts., complete from neck to feet, missing right hand; deep gash over right knee; surface stained purple.

6.3.3 Material, if marble: not type of marble, unless you are an expert, but color, size of crystals, colored or micaceous veins, if exist, laminating fracture if exists.

6.3.4 Description:
1. General first: Sex, Nude or Draped, Pose, Position of legs, arms,
2. Then, specific from top down,
   e.g. Female figure, nude, standing with weight on right leg, left turned out, arms at side. Hair worn long, with spirally curls framing forehead, square face, low forehead, thick straight eyebrows, deepset eyes, short nose, pursed lips, short fat neck, .... etc.
3. If draped, then drapery after head, again, going from general to specific:
   e.g. Wears a frilly chiton that covers upper arms, over which a diagonal himation, hung from left shoulder, wrapped around waist to hang over extended left forearm. Deep vertical folds fall to feet. ....
4. Last, plinth or base
5. Tooling: i.e., use of claw chisel, flat chisel, drill
6. If a figurine, whether hollow or solid, handmade, vs. mould made.

6.3.5 Decoration: Painted decoration only, again systematically presented.
6.4 ARCHITECTURAL TERRACOTTAS: Look at the reconstruction of the south Stoa roof on the site:

6.4.1 Pan and cover tiles:
- Classical Corinthian pan tile: flat floor, triangular sides; undercut at one end for overlap to next tile.
- Corinthian cover tile: pentagonal in shape.
- Laconian pan tile: shallow curve with flattened edges.
- Laconian cover tile: semi-circular in section
- Roman Corinthian pan tile: Flat with vertical edges along two long sides.

6.4.2 Eaves Tile: Is bottommost pan tile, at edge of roof; decorated on outer face and underside (= soffit)

6.4.3 Antefix: Is the decorative plaque that covers the bottommost cover tile; usually takes the form of a palmette. The antefix that runs along the ridge or apex of the roof is called the ridge antefix.

6.4.4 Sima: Is the gutter that initially runs down either facade along the edge of the roof and turns the corner, ending in a lion-head spout, before giving way to decorative eaves-tiles and antefixes. Along the flanks. In the 4th century B.C. the sima extends along the long sides too. Distinguish between the raking sima (facade) and lateral sima (flanks)

6.4.5 Acroterion: The decorative element that falls at the apex of the roof and at the corners. Can be simply a floral motif, or a piece of sculpture.

6.5 INSCRIPTIONS:

6.5.1 Description: describe the form of the block - thin, thick, plain, decorated with mouldings? Also describe the treatment of all preserved stone faces.

6.5.2 Tooling: Punch (= very coarse point); point-dressed; claw-chisel; smooth; polished; anathyrosis

6.5.3 Text: given under “Writing”: language, letter Ht., distance between lines; if have finished edges of stone, then give distance between edge of block and start of text.
7 FABRICS

Color, hardness, feel and fracture all relate to the entire sherd rather than its components.

7.1 COLOR: The color of a fresh break should, where possible, be described using a Munsell Soil Color Chart or a CEC chart in natural light. Munsell color notations may seem to be inappropriate but they too follow a system that bridges the cultural idiom of subjective color description. "yellowish red" defines a specific hue, value and chroma range within the scale which "buff" does not.

Be careful in matching colors but remember that different people do not have the same capacity for matching a sample to the tabs illustrated but nearly everybody is capable of placing a color approximately within the three-dimensional scale.

7.2 HARDNESS: Based on a modified Moh’s scale and can be made with a fingernail and knife tip. This is actually not a hardness test but a test of cohesiveness. Firing and soil conditions both affect mineral cohesion; a sherd from the forum at Corinth may be extremely "hard" while a sherd of the same fabric from the Demeter Sanctuary can be a extremely soft.

<table>
<thead>
<tr>
<th>Very soft</th>
<th>fingernail scratches easily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft</td>
<td>fingernail scratches</td>
</tr>
<tr>
<td>Medium hard</td>
<td>penknife scratches</td>
</tr>
<tr>
<td>Hard</td>
<td>penknife just scratches</td>
</tr>
<tr>
<td>Very hard</td>
<td>penknife will not scratch</td>
</tr>
</tbody>
</table>

MODIFIED MOH’S SCALE

7.3 APPEARANCE: The appearance of a fresh break is an indicator of hardness and content of the ceramic body and may be suggestive of the technology used. Granular fractures tend to have numerous large inclusions while smooth breaks tend to have few or no inclusions. Laminar - platy, stepped appearance, Hackly - large angular irregularities, Granular - fine, more rounded irregularities, Conchoidal - large, smooth, angular facets like chert, Smooth - even, without apparent irregularities.

7.4 FEEL:
A description of how the surface, as opposed to the break, "feels" is useful and complements a description of the appearance. The terms suggested can be used in conjunction with each other; it is possible for a sherd to be both harsh and powdery (as Late Roman Palestinian amphoras), smooth and greasy (Middle Bronze Age “Minyan Ware”) or rough and greasy (Early Bronze Age “Talc Ware”). It too is an indicator of cohesiveness and content.

Harsh   Abrasive surface
Rough   Angular irregularities present
Smooth  No irregularities discernible
Greasy  Slick, almost slippery surface
Powdery Grainy feel often leaving powder on finger

7.5 INCLUSIONS:

7.5.1 Frequency: A verbal estimate of the frequency of inclusions can be made using a frequency chart. Obviously inclusion size affects the perception of frequency. A size estimate, with the assistance of a modified Udden-Wentworth Scale, and a frequency estimate should be indicated for all inclusions contained within the new break before going on describe the size and frequency of different individual types of inclusion.
MODIFIED UDDEN-WENTWORTH SCALE:
V. Large >1mm. (very coarse sand); Large 0.5<>1.0mm (coarse sand); Medium 0.2<>0.5 (medium sand); Small 0.1<>0.2 (fine sand) Fine <0.1 (very fine sand).

7.5.2 Shape: Description of inclusion shape is assisted by a chart illustrating gradations from rounded to angular grains on one axis and from spherical to platy on the other. Remember that the observed surface presents only two dimensions of a three dimensional object, thus a cylindrical object may appear tubular, spherical or oval in cross-section. Only a simple subjective color notation, for instance brown or white, qualified by adjectives such as milky, vitreous or glassy, is necessary.

SHAPE AND ROUNDNESS OF INCLUSIONS

7.5.3 Inclusions: Inclusions are usually too small to identify with any certainty in a hand specimen and it cannot be stressed enough that an accurate description is of far greater value than a wrong identification. The question of identity can be begged without dishonor but a qualified guess may be tentatively made after description if the identity is fairly sure. If the latter course is taken a pipette, a small bottle of 5% hydrochloric acid or vinegar, and a steel dress-maker's pin can be useful accessories.

Table for inclusion identification:

I. Inclusions that react with dilute hydrochloric acid
When dilute (5%) hydrochloric acid is put on these inclusions they will effervesce. Care should be taken so as too observe that the reaction is taking place on the inclusion rather than a reaction involving the surrounding clay matrix which may be of a calcareous nature.

1. Long curved structures, sometimes an observable lamination = shell
2. Spherical or slightly ovoid, sometimes concentric banding = ooliths
3. Inclusions irregular to rounded = limestone
4. White or clear vitreous inclusions, sometimes rhomb-shaped = calcite

II. Inclusions that do not react with dilute hydrochloric acid
These inclusions can include mineral and rock fragments. The classification is divided into light and dark colored inclusions.

A. Light colored minerals:
1. Glistening flakes = mica
2. Clear/white vitreous grains, very hard = quartz/quartzite
3. Aggregate of white vitreous grains = sandstone
4. Dull white grains or rhombs, medium hard = dolomite
5. Dull milky white to orange/pink grains, hard = feldspar
6. Range of colors, light to dark, very hard, can show conchoidal fracture = chert

B. Dark colored minerals
1. Glistening flakes = mica
2. Range of colors (Brown/grey/red), usually slightly elongate and subangular = mudstone or grog
3. Black grains = e.g. Fe-Ti oxide, ferromagnesian silicate, rock fragment
4. Range of colors, light to dark, very hard, can show conchoidal fracture = chert

III. Heterogeneous Inclusions that do not react with dilute hydrochloric acid
1. Composed of a number of grains, variable colors = rock fragments
   (It may be possible to identify these further if the grains are large enough).

7.5.4 Voids. Voids can be confusing for the non-specialist, especially when it comes to differentiating between vughs, vesicles, channels

1. Thin elongate voids = planar voids
2. Smooth, spherical voids = vesicles
3. Rounded voids = cross sections of channels
4. Irregularly shaped voids = vughs (divide into large [2-3 mm] and fine [less than 1 mm long] scale)

Channels

7.5.5 Porosity. An estimation of porosity can be quantified with the help of a domestic oven. The sherds are heated at 105°C for an hour and weighed dry of unassociated water. They are then immersed in water for 24 hours and reweighed after having dried the surface. The difference in weight represents the water retained in the open pores and can be expressed as a percentage of the dry weight.