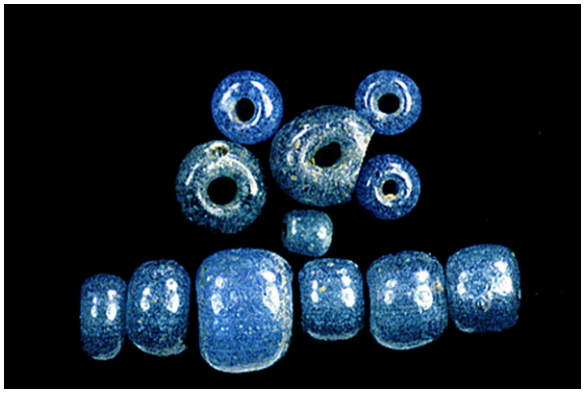
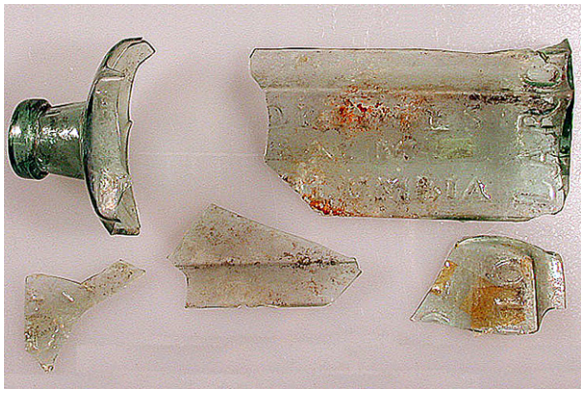
# ARCHAEOLOGY LAB MANUAL






**by**

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**December 2003**



Fort Vancouver National Historic Site
Vancouver National Historic Reserve

## Preface

Fort Vancouver is an archaeological site. The diversity of the people who lived within the boundaries of the Historic Reserve, and the important events that occurred here, are documented through the humble, but very tangible, material remains that lie just a few centimeters under the ground surface. These artifacts, features, and other material phenomena complement, confirm, correct, and improve on historical records. They are the ultimate proof that this place actually existed and provide crucial evidence for what people did and who they were. They are the unwritten records of the Native Americans, Métis, Native Hawaiians, French- Canadian voyageurs, soldiers, laundresses, and other people who left no diaries, ledgers, or maps, but who contributed significantly to make this the central community of the entire Pacific Northwest.

Louis Caywood initiated archaeology at the Fort site in 1947. Since that time, many archaeological projects have been conducted. Scientists have uncovered and documented numerous layers of history that comprise Fort Vancouver National Historic Site and the Vancouver National Historic Reserve. The most abundant and significant pieces of our collection date to the time of the Hudson's Bay Company and early U.S. Army period (ca. 1829- 1860). All of the extant buildings within the fur trade stockade were reconstructed on their exact historical locations based on the work of archaeologists. Many of our interpretations of the way of life of Hudson's Bay Company officers, workers, and their families are based on scientific analysis of archaeological remains. Many features remain of the U.S. Army use of the site, including the fill and railroad ballast from railroad lines associated with the W. W. I Spruce Mill (1917- 1918). This mill, the largest of its kind, produced parts for early aircraft to support the war effort. During the 1930s, the Civilian Conservation Corps (CCC) was headquartered here and materials from barracks used to house and train workers are routinely found by archaeologists digging in the site.

Through careful analysis of the artifacts recovered at this premier historical archaeological site, we will continue to explore and refine our understanding of the significance of this place.

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## Introduction

It has been said that for every hour that an archaeologist spends in the field excavating, that they will spend an additional three to five hours in the laboratory cleaning, processing, and analyzing the recovered artifacts. This may seem excessive, however, on artifact- rich historic sites such as the Vancouver National Historic Reserve, this estimate may in fact be too low. It is not uncommon for us to recover tens of thousands of artifacts in a two- month excavation, and each of these artifacts will have to be processed through the lab to insure proper analysis and curation standards.

Artifact analysis is the key to archaeological interpretation and an understanding of the behavior of those from the past that we are studying. The entire assemblage of artifacts, notes, sketches, profiles, and photographs of an excavation become the data set on which archaeologists base their interpretations. It is the artifacts themselves, however, that are the primary data that can be "read" and analyzed, and they are the focus of the lab procedures.

## Artifact Processing

As the artifacts are recovered in the field, they are sorted by material types, counted, and recorded on the field record forms. They are also bagged separately, by material type and by provenience. All of the plastic bags from each level in each unit are then placed in larger "level bags."

The provenience of each artifact consists of an operation or project number (a specific area of the excavation designated by the principal investigator), excavation unit designation, and level. It may also include a feature designation.

Each sorted bag has its own bag number that is recorded both on the Shovel Test Probe Form **or** Level Record Form, **and** the Bag Catalog Form. These bag numbers are unique to each excavation unit, that is to say Unit 1 and Unit 2 of an excavation theoretically have their own bag number 1 (see Table 1). This system is great to keep bags distinguished from one another in the field, however in the lab Unit 1 Bag 1 and Unit 2 Bag 1 do not have unique enough numbers to guarantee that they will not be confused with one another. Therefore, the bags are re-numbered in the lab, allowing them to be individually tracked through the lab process.

We organize our artifacts in "Lots," unique numbers that are associated with specific proveniences. For example:

- All of the bags that are associated with Operation 1, Unit 1, Level 1 become Lot 1.
- Operation 1, Unit 1, Level 2 finds will become Lot 2.
- If no further artifacts were recovered from Operation 1, Unit 1, we would proceed to Operation 1, Unit 2, Level 1, which would become Lot 3 (see Table 1).

This system will be applied using numbers to infinity until all of the bags have a Lot number applied to them. As you can see, this system still has the possibility of assigning multiple bags with the same Lot number. For example:

- If there were three bags of artifacts recovered from Operation 1, Unit 1, Level 1, they would all have the lab catalog number of Lot 1 applied to them (see Table 1).

A new unique number within the Lot number needs to be applied to the bags to give them a unique sequence. To accomplish this, we give the bags "Specimen " numbers or "Spec" for short. For example:

- Operation 1, Unit 1, Level 1, Bag 1 would become Lot 1, Spec 1.
- Operation 1, Unit 1, Level 1, Bag 2 would become Lot 1, Spec 2, etc. (see Table 1).

Lot and Spec numbers are assigned, using the Bag Catalog Forms, by the archaeologist directing the project (to make sure that if any mistakes are made on this crucial portion of processing, they can be blamed only on us!).

At this point, the Lot and Spec number are transferred from the Bag Catalog Form to each of the sorted artifact bags using a Sharpie Pen. This assures that a permanent sorting number has been placed on each bag. The number will be used to track the artifacts through laboratory processing.

**Table 1**: Unit provenience, bag numbering, and assignment of Lot and Specimen numbers for a hypothetical operation.

| Unit # | Level # | Bag # | Contents | Lot | Spec |
|---|---|---|---|---|---|
| 1 | 1 | 1 | Flat Glass | 1 | 1 |
| 1 | 1 | 2 | Ceramics | 1 | 2 |
| 1 | 1 | 3 | Square Nails | 1 | 3 |
| 1 | 2 | 4 | Flat Glass | 2 | 1 |
| 2 | 1 | 1 | Ceramics | 3 | 1 |
| 2 | 1 | 2 | Vessel Glass | 3 | 2 |

## Artifact Cleaning

After each bag has been labeled with a Lot and Spec number, the artifacts are cleaned. **This is the most crucial and dangerous period during the processing, as the artifacts leave their field bags with all of the provenience information. Please be careful, pay attention, be systematic and organized!**

All artifacts from one Lot and Spec number (one provenience) should be cleaned together and set to dry on a drying rack or in a Styrofoam tray. Line the tray/drying rack with Tech Wipes to assist in the drying efforts. The field bag with the provenience information should be placed in the tray with the artifacts while they are drying. **This is the only provenience data for the artifacts that we have, and if the bag is separated from the artifacts, it will be very difficult to reunite the artifacts with their "identity."**

Non- metallic and non- organic artifacts such as glass and ceramics can be washed using a plastic tub filled with water and a strainer. Toothbrushes are provided to scrub the artifacts. After the artifacts are cleaned, place them in a tray with their field bag to dry overnight.

Iron and metallic artifacts can be cleaned using copper wire brushes, holding the artifact over a trash can to catch the rust. Scrub gently, as corroded metal can be fragile, and be careful not to cut yourself with the sharp bristles. Remove as much of the obvious oxidation and dirt as you can, without removing portions of the original artifact. Although the iron has not been washed, it should be allowed to air- dry in trays as well, as there is typically residual moisture in the metal from its time in the ground.

Organic items, such as bone and leather, should be gently brushed with a dry toothbrush, removing as much of the dirt and roots as possible without damaging the item. If the bone is very dense and intact, it may be appropriate to wash it with water, but if in doubt ask a lab supervisor for their opinion.

After the artifacts have been left to dry overnight, they are transferred into new, clean plastic bags, with a paper "Wash Label." The section of the original field bag that has the written information is cut off and inserted into the new bag as well, as a form of back- up. The Wash Label is filled out in pencil with the information from the field bag.

A sample Wash Label appears below:

**WASH LABEL** FOVA_____
Lot: _____, Spec: _____
Unit: _____
Level: _____, Str./Feat:_____
Type: _____
N: _____

It is very important to fill out the **FOVA** field with the accession number for the collection being analyzed. The **Lot** and **Spec** numbers, as well as the **Unit** and **Level** information, are transferred from the field bag in legible print. Include operation or project designation to the unit portion of the tag. **Str/Feat** means Stratum or Feature, and should only be filled out if this information was provided on the original field bag. The **Type** field indicates what the artifact(s) within the bag should be labeled.

The table on the next page lists a generalized nomenclature used for artifact types found at this site. Although the Wash Label only has a space for "Type," the list below breaks the terms down into "Sub- Type" for a few specific artifact categories. If you can determine a more specific term for these artifacts, use the term found in the "Sub- Type" portion of the table and record it in on the "Type" line on the Wash Label. The list is not all- inclusive, and if you have an artifact that does not match up with the options described, ask a lab supervisor for their advice on labeling an artifact.

**Table 2**: Generalized Type and Sub- Type listings for commonly found artifacts.

| Type | Sub- Type |
|---|---|
| **BEAD** | |
| **BOLT** | |
| **BONE** | |
| **BRICK** | |
| **BUCKLE** | |
| **BUTTON** | |
| **CERAMIC** | EARTHENWARE (state color, undecorated, hand- painted, etc.)<br>IRONSTONE<br>PORCELAIN<br>STONEWARE<br>TRANSFERPRINT (state color), Designate Earthenware or Ironstone |
| **CHARCOAL** | |
| **CLINKER** | |
| **COAL** | |
| **COKE** | |
| **GLASS** | VESSEL GLASS (state color)<br>FLAT GLASS |
| **LITHICS** | LITHIC DEBITAGE<br>FIRE- CRACKED ROCK<br>TOOL |
| **METAL ARTIFACT** | |
| **METAL FRAGMENT** | |
| **MUNITIONS** | |
| **NAIL** | MACHINE CUT NAIL<br>SQUARE NAIL<br>WIRE NAIL<br>WROUGHT NAIL |
| **NUT** | |
| **PIPE** | PIPE BOWL<br>PIPE STEM |
| **SCREW** | |
| **SLAG** | |
| **SLATE** | |
| **SMALL FINDS** | ASPHALT<br>BISQUE<br>BOTANIC<br>CHALK |

| Type | Sub- Type |
|---|---|
| | CIGARETTE BUTT |
| | COMPOSITE ARTIFACT |
| | CONCRETE |
| | CORAL |
| | FEATURE SAMPLE |
| | FIBER |
| | FOIL |
| | GLAZING PUTTY |
| | LEATHER |
| | MORTAR |
| | PAPER |
| | PAINT |
| | PENCIL LEAD |
| | PIGMENT |
| | PLASTIC/SYNTHETIC |
| | PLASTER |
| | SEED |
| | SHELL |
| | TAR |
| | TEXTILE |
| | TILE, ROOFING (composite) |
| | WAX |
| **TILE** | |
| **WASHER** | |
| **WOOD** | |

## Lab Analysis

The lab analysis forms are designed to enter specific types of data about artifact types commonly encountered at the Vancouver National Historic Reserve. These forms will create a permanent record of artifact analyses, and allow for easy entry of these data into the catalog record database. In order for these data to transfer smoothly, each form will have to be filled out correctly. Please take the time to familiarize yourself with these directions, and follow them closely. Only perform these analyses after you are fully trained by a lab supervisor. It takes time to become familiar with all of these material types and recognize them and their attributes correctly. Go slowly, and please ask one of us if you have any questions or concerns.

The table below indicates the estimated degree of difficulty for each type of artifact analysis. You will be assigned artifact categories listed as an "Low" degree of difficulty, and as you become familiar with the material culture, you will work up to the "Medium" and "Hard" categories. In fact, the three "Hard" artifact categories, Beads, Vessel Glass, and Ceramics, should only be attempted by trained volunteers and staff who have analyzed almost every other material type, who come in at least once a week, and are prepared to read volumes of source data and spend hours familiarizing themselves with the study collection. Vessel Glass and Ceramics have the most categories of analysis as well as the most variation, and it is important that the analyzer be consistent and see the analysis through to the end.

| Object Class | Degree of Difficulty |
|---|---|
| Bone | Low |
| Brick/Tile | Low |
| Coal/Coke/Clinker/Slag | Low |
| Flat Glass | Low |
| Metal Fragments | Low |
| Slate | Low |
| Small Finds | Low/Medium |
| Wood/Charcoal | Low |
| Bolt, Nut, Washer, Screw | Medium |
| Buckle, Button | Medium |
| Pipe | Medium |
| Misc. Metal Objects | Medium |
| Munitions | Medium |
| Nails | Medium |

| | |
|---|---|
| Beads | High |
| Lithics | High |
| Ceramic | High |
| Vessel Glass | High |

The completion of the analysis on each object will insure that we have a comparative database of all finds, with the maximum amount of measurable data we can glean from these artifacts. Using these data, we will be able to complete specific artifact group analyses that can be used for site comparisons. It may be tedious, and there may be times when you will question the validity of knowing the thickness of every fragment of window glass, or the weight of every piece of recovered wood. However, this is a necessary process from which we will be able to verify the presence, and interpret the behavior and other cultural aspects, of the occupants of this site. We thank you for your diligence, and for the hours of your time that you are investing in this important project.

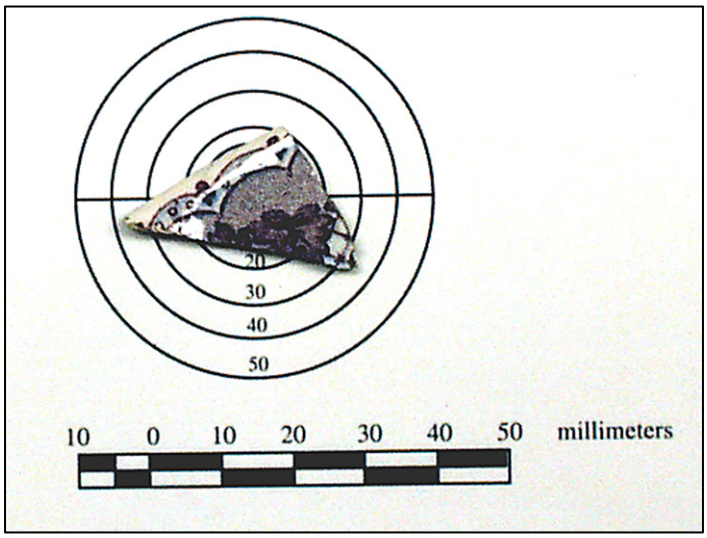
## General Measurement Procedures

**Using The Size Target**: For many of the artifact categories it will be necessary for you to measure individual artifacts using a "size target." The size target is much like a bull's eye, but its use is much different! This target will enable you to quickly determine a size range (in mm) that will be useful in determining recovery rates based upon screen size, as well as interpretations of breakage rates of artifacts and formation processes of the archaeological record. The size target is not used in every artifact category, since some objects require the use of calipers for more specific measurements. Please refer to the specific artifact information for each category to determine if you should use the size target or the calipers.

The size target is used to measure the maximum dimension for a specific artifact. Many types of artifacts, such as ceramics and glass, often break in irregular patterns, making it difficult and unwieldy to record every dimension of a sherd. Therefore, we only measure and record the maximum dimension for these artifacts. On the size target, center the artifact over the "bull's eye."

Let your eyes center the artifact; most people innately place an object in the center of a circle. Looking at the artifact, determine the largest dimension - look for corners and edges that extend further over the target lines than other areas of the artifact. With the artifact centered, and the areas that extend the furthest out from the center determined, look carefully at the size target. Record the measurement that corresponds to the ring closest to the maximum dimension of

the artifact, that is not actually intersected by any part of the object. In the photographic example above, the artifact should be recorded as 40 mm.




**Using the Digital Calipers**: Our archaeological lab is currently outfitted with two sets of Mitutoyo solar powered digital measurement calipers. You will find them in gray, rectangular plastic cases in the lab (on top of the stainless steel counter top). Please take care in handling these calipers! They are pricey and delicate items. The calipers should turn on once exposed to light - they will automatically shut down when you return them to their box and close the lid.

With the jaws in the closed position, the calipers should read "0.00 mm." To open or close the caliper jaws, simply use your thumb to roll the threaded roller along the caliper shank. If the jaws are closed, and you end up with a number other than "0.00 mm" (in either negative or positive numbers), you should zero out the calipers by holding down the "ORIGIN" button on the bottom of the display unit. The display should now read "0.00 mm." If the display reads "in" instead of "mm" after the number, please press the "in/mm" button on the bottom of the display unit to make sure the measurements are in millimeters rather than inches.

To measure an artifact, open the caliper jaws wide enough for the artifact to be placed within the jaws. Then simply slide them closed until the artifact is firmly held within the jaws. The artifact dimension can then be read on the display.

When you are done with the calipers, please return them to their box, and return the box to its storage location in the lab.

## Beads

**Degree of Difficulty: HIGH**

Beads are one of the most common trade goods found at the Vancouver National Historic Reserve. Glass beads were manufactured in Europe or Asia – especially Bohemia (now called the Czech Republic), Italy, and China – and imported by the Hudson's Bay Company. They were extremely popular with Native American, French- Canadian, and Métis peoples for use in decorating personal items. Analyzing beads is somewhat complex. You will encounter new terminology and several unique processes of manufacture. You should read Ross (1990) before you begin, and study the bead samples in the lab.

*Go look!* **Bead Type Collection, Cabinet 22 Drawers 1- 4**

Our classification system was developed by Lester Ross, and uses physical attributes to classify beads: manufacturing techniques, color, opacity, shape, and decoration. Each category will be discussed in the appropriate section below.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot:** Fill in the assigned lot number.

**Spec:** Fill in the assigned specimen number.

**Object:**
BEAD, BLOWN
BEAD, DRAWN
BEAD, HOT TUMBLED TUBE
BEAD, MANDREL PRESSED
BEAD, MODERN
BEAD, PROSSER MOLDED
BEAD, WIRE WOUND

**Drawn** beads, including hot tumbled tube beads, are the most common type of bead found here. They were manufactured by stretching molten glass between two pontils, or rods, and then cutting the long, hollow tube into pieces. The resulting beads were either left with angular ends, or finished by one of two methods: **hot tumbled tube** beads were smoothed in a heated, revolving barrel

filled with sand or ash, while other beads were ground on the outer edges to create facets. Sometimes a wooden paddle was used to create multiple flat sides on the glass cane, which were retained as facets when the glass was stretched. Drawn beads tend to be cylindrical in shape.

**Wound** beads were manufactured singly. A small segment of a glass cane was reheated, then wrapped around a wire or "mandrel." The glass was then twirled in the heat until a bead of the desired shape was formed. Wound beads come in a wider variety of shapes, because of the freeform method of manufacture. They are usually spherical or ellipsoidal, with smaller perforations than those in drawn beads.

**Molded** or **pressed** beads were formed by compressing warm glass in a two- part mold. This process often left visible seam marks around the widest point of the bead, but on more expensive beads these were polished out by hand. Ground facets may have been added to the molded sides. **Mandrel pressed** beads have a conical perforation, smaller and ragged on one end and larger on the other. The larger perforation may be surrounded by a slightly concave cone. **Prosser molded** beads have a porous appearance and a slight bulging around the circumference.

**N:** Identify the number of objects or fragments.

**Chroma**: Identify whether there are one or more distinctly- colored glass layers on the bead:

Monochrome
Polychrome

This can be tricky. Drawn and wound beads may have either a single (monochrome) or double layer of glass (polychrome). A double layer on a drawn bead was created either by layering a contrasting color over the core before stretching, or through the cooling of the glass itself. Layers of the same color sometimes cooled at different rates, resulting in a bead which is darker on the outside and lighter on the inside. Wound beads occasionally had insets of contrasting glass colors pressed into them while still semi- molten, to form intricate designs.

**Munsell**: Use the Munsell Book of Color (2 volumes) to determine the standard color value. The color is written with the hue first, then the value and chroma separated by a slash: 10R 3/10. Only fill in the one or two colors that compose the body of the bead, not the decoration.

**Length**: Measure the maximum length of the bead between the perforations with digital calipers, in mm.

**Diameter**: Measure the diameter of the bead with digital calipers, at the maximum point of density from side to side.

**FOVA Variety Number** : Using the bead sample card, the type collection, and the Ross article, determine the Fort Vancouver variety type of the bead. It should be written as "FOVA Variety #_____."

**Shape**: Cylindrical 

Spherical 

Elliptical 

**Decoration**: Faceted
Striped

**Opacity**: Opaque
Transparent
Translucent

The opacity, also known as diaphaneity, is the amount of light that penetrates a bead. The opacity is judged by placing a pin through the bead and holding it up to a light source. **Transparent** beads are those that are completely penetrable by light. **Translucent** beads are also penetrable by light, but objects viewed through them appear diffuse. **Opaque** beads are penetrable by light only at the thinnest edges.

## References


Hayes, Charles F. III, Editor
1983 Proceedings of the 1982 Glass Trade Bead Conference. *Research Records No. 16*, Research Division, Rochester Museum & Science Center, Rochester, New York.

Kaehler, Gretchen
2002 Patterns in Glass: The Interpretation of European Glass Trade Beads in Two Protohistoric Sites along the Lower Columbia River. Master's thesis, Portland State University, Portland, Oregon.

Karklins, Karlis
1981 Glass Beads from Yuquot, British Columbia. The Yuquot Project, Volume 3: 80- 93. *History and Archaeology No. 44*. Parks Canada, Quebec.

Ross, Lester A.
1990 Trade Beads from Hudson's Bay Company Fort Vancouver (1829- 1860), Vancouver, Washington. *Beads: Journal of the Society of Bead Researchers*, 2: 29- 68. T & H Printers Ltd., Gloucester, Ontario, Canada.

## Bolts, Nuts, Washers, and Screws

**Degree of Difficulty: MEDIUM**

Bolts, nuts, washers, and screws are all metal fasteners that are commonly found at the Vancouver National Historic Reserve. These fasteners may be representative of all of the historic periods at the site, and a primary function of this analysis is to narrow down the date range of manufacture for these artifacts. The analysis can provide critical information on industrial activities that were carried out on this site.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot:** Fill in the assigned lot number.

**Spec:** Fill in the assigned specimen number.

**Object:**

| | |
|---|---|
| BOLT | |
| BOLT AND NUT | (if they are rusted together) |
| BOLT AND WASHER | (if they are rusted together) |
| BOLT, NUT AND WASHER | (if they are rusted together) |
| NUT | |
| SCREW | |
| SCREW AND WASHER | (if they are rusted together) |
| WASHER | |

**N:** Identify the number of objects or fragments.

**Size (mm):** Record the length and width of each metal fastener. Use calipers for measurements, unless the object is large enough to require the use of a tape.

**Description:** This field's entries will vary based upon what type of fastener is being analyzed. The list below defines the most common types of each fastener that you are likely to encounter.

Bolts:
- Bateau Bolt
- Carriage Bolt
- Cotter Bolt
- Lag Bolt
- "U" Bolt

| | |
|---|---|
| Nuts: | Hexagonal Nut |
| | Square Nut |
| | Wing Nut |
| Washers: | Flat |
| | Lock Washer |
| | Spring Washer |
| Screws: | Philips Screw |
| | Machine Screw |
| | Wood Screw |

**Manufacturing Methods:** In general, this category can be divided into three entries:

Hand Forged
Machine Made
Unknown

In general, hand forged artifacts display irregularities in their construction, as with hand forged square nuts, which usually are rectangles instead of true squares. Hand forged screws and bolts generally display irregular, widespread threads, when compared against machine- made counterparts. Machine made artifacts display a level of finishing and symmetry that cannot be matched by hand- forged examples. If an artifact is extremely corroded, obscuring manufacturing techniques, label the item as "Unknown," rather than taking an unwarranted guess.

**Surface Modifications:** Please note any observed modifications to the artifact, such as:

| | |
|---|---|
| Bent shaft | (BS) |
| Broken tip | (BT) |
| Flattened | (F) |
| Missing head | (MH) |
| Sheared | S |

**Notes:** Other information that is not captured in the above fields goes in this field.

## Bone

**Degree of Difficulty: LOW**

Animal bone is commonly found at the Vancouver National Historic Reserve. The analysis of bone can provide critical information on cooking and refuse practices, diet, and agriculture. The study of bone can provide an idea of the animals that were available to the site's occupants and what the natural environment was like during the historic period. Less commonly, bone objects such as utensils or tools may be recovered.

The laboratory analysis of bone is generally limited to collecting basic data on its quantity and condition. Analysis by specialists may be conducted to gather information on species, modification, use, and other important information.

If you find a bone that you suspect may be human, tell a lab supervisor immediately.

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in assigned lot number

**Spec:** Fill in assigned specimen number

**Object:** BONE, UNWORKED
BONE, WORKED

Other object names should reflect a specific tool or object type, for example: a carved bone spoon would be identified as "SPOON."

**N:** Identify the number of objects or fragments (if possible). In many cases there will be many fragmentary pieces that will defy counting. If this is the case, leave the N field blank and note "Many Fragments" in the Notes field.

**Weight (g):** Record the weight of the object or the entire lot of fragments.

**Notes:** Note if it is a modified bone or a bone object. Other information that is not captured in the above fields goes in this field.

## Brick and Tile

**Degree of Difficulty: LOW**

Brick and tile are common architectural materials found at The Vancouver National Historic Reserve. Brick was imported from England by the Hudson's Bay Company to manufacture fireplaces, chimneys, and the fort's Powder Magazine. Bricks were also purchased locally from brickyards in the Willamette Valley and later were manufactured locally by the L. M. Hidden brickyard and other Vancouver brick manufacturers. Many of the bricks were used in foundations and chimneys for U.S. Army buildings. Sometimes imported bricks from Scotland, England, and other brickyards in Europe are found on the site.

*Go look!*

**Brick Type Collection, Stack 6 Shelves**

Please read Gurke (1982:69- 82) prior to analyzing bricks. The following represents a brief discussion of common types.

**Type 01 English Brick:** One of the more distinctive brick types found are Type 01 English Bricks (from Gurke [1982; 1987]; synonyms include: FOVA Class 6 [Hoffman and Ross 1972], Variety 1001 [Steele, et al. 1975]), which are larger in size and of a distinctive color compared with American Bricks. The exterior of Type 01 English bricks are generally a yellow to pale brown with an interior that ranges from a reddish brown to gray and purple- black in color. Larger inclusions of coal, shell, and small pebbles are present as "breeze" to enhance the firing of the brick.

Most of the English bricks contain a shallow divot, or "frog," with the letter "W" (sometimes an "O" or a "C") impressed into the clay. Often there are two finger impressions on either side of the "W." The dimensions of complete specimens are roughly 8 ½ to 9 in. x 4 in. x 2 ½ in. *(the standard size for English bricks set by King George III in 1776 was 9 x 4 ½ x 2 ½ in.*).

**Type 05 American Brick:** One of the most commonly found types of brick in the Hudson's Bay Company and Early U.S. Army deposits are Type 05 American Bricks (from Gurke [1982; 1987]; synonyms are: Class 1 [Hoffman and Ross 1972]; Variety 1004 [Steele, et al. 1975]). These bricks range in color from a light red to a reddish gray and conform to standard American brick sizes (roughly 8 in. x 4 in. x 2 in.). They generally have a fine to medium grain texture with a moderate amount of inclusions.

Type 05 bricks have no trademarks, or surface features except the "strike" (where the excess clay was removed from the brick before it was fired, often leaving striations).

**Type 04 English (?) Brick:** A rare type of brick is the Type 04, which has a very consistent reddish- yellow color, is fine grained with a few small inclusions with very faint striations on one face associated with the strike. These bricks are thinner than standard American and English bricks, with specimens approximately 1 ¾ in. in thickness and about 4 ½ in. in width.

Gurke (1982:82) hypothesizes that these could be bricks scavenged from a Roman ruin in England and transported to the site as ship's ballast.

**Clay Roofing Tile:** Clay roofing tile is rare here, mostly associated with a few building sites within the palisade of Fort Vancouver. These tiles are about ½ in. thick, reddish brown in color, and some have fastener holes. Other masonry tiles used in construction have been found occasionally at the site as well.

The basic lab analysis of brick and tile is relatively straightforward. Bricks are recorded separately from tile. Bricks are separated by general object type (English, American, or unidentified) and then by size category. If there is a complete brick, or a brick or tile fragment that contains at least one complete measurement, it should be recorded separately on a single line.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot:** Fill in the assigned lot number.

**Spec:** Fill in the assigned specimen number.

**Object:**
BRICK
BRICK, AMERICAN
BRICK, ENGLISH
TILE, MASONRY
TILE, ROOF

**N:** Identify the number of objects or fragments.

**Size (mm):** For brick, record the size using the size target (see General Measurement section). If the brick is greater than 50 mm use the calipers or tape

to record the exact maximum dimensions. If the brick contains at least one complete measurement (i.e. has two flat sides), leave this field blank and record the measurements in the **Length**, **Width**, or **Thickness** section as appropriate. For all tile artifacts, use the calipers or tape to record the exact maximum dimensions.

**Weight (g):** Record the weight of the bricks or tile for each size category. For example, all the fragments measured at 20 mm on the size target would be weighed together, all those measured at 30 mm would be weighed together and recorded on the next line, etc.

**Length, Width, Thickness:** Only fill out these categories if there are squared corners remaining on the piece of brick or tile.

> **L (mm):** Leave blank unless there is a complete length dimension present for the artifact. Measure across the length of the object. Most bricks will be missing this measurement.
>
> **W (mm):** Leave blank unless there is a complete width dimension present for the artifact. Measure across the width of the object in mm. Many larger pieces of brick may have a width measurement.
>
> **Th (mm):** Leave blank unless there is a complete thickness dimension present for the artifact. Measure across the thickness of the object in mm. Many larger pieces of brick will have a width measurement and many pieces of tile will have a complete thickness measurement.

**Description:** Generally roofing tile will not have a description, although masonry tile may. For bricks, if there is a sufficiently large size of brick to determine type, specify the Gurke (1982) type as "Gurke Type ##." Appropriate elements to include in brick descriptions are:

Gurke Type ##
Machine- made
Hand- made
Unknown
Complete (for complete bricks or pieces of tile – very rare)

**Surface Modifications:** Appropriate elements to include for surface modifications are:

Frog
Fastener hole
Partial fastener hole
Maker's marks: include the text/numbers of the maker's marks and any other identifying features. Enclose text in parentheses and set off partial

text with ellipses. For example, appropriate entries for brick surface modifications are:

Maker's mark ". . . ACIFI . . ."
Maker's mark "W" with two thumb imprints in frog

**Notes:** Other information that is not captured in the above fields goes in this field.

## References


Gurke, Karl

1982 Kanaka Village Bricks. Kanaka Village/Vancouver Barracks 1975, David Chance, editor, pp. 69- 82. *University of Washington, Reports in Highway Archaeology*, No. 7. Seattle, Washington.

1987 *Bricks and Brickmaking: a Handbook for Historical Archaeology*. University of Idaho Press: Moscow, Idaho.

Hoffman, John J. and Lester A. Ross

1973 *Fort Vancouver Excavations- IV*. Chief Factor's House and Kitchen, Table 23. Ms., Fort Vancouver National Historic Site, Vancouver, Washington.

Hoffman, John J. and Lester A. Ross

1974 *Fort Vancouver Excavations- VI*. Sales Shop and Powder Magazine, pp. 54- 55. Ms., Fort Vancouver National Historic Site, Vancouver, Washington.

Steele, Harvey W., Lester A. Ross, and Charles H. Hibbs, Jr.

1975 *Fort Vancouver Excavations - XII: OAS Sale Shop Excavation*, pp. 129- 130. Ms., Fort Vancouver National Historic Site, Vancouver, Washington.

## Buckles and Buttons

**Degree of Difficulty: MEDIUM**

Buttons and buckles are clothing and accoutrement fasteners that are commonly found at the Vancouver National Historic Reserve. These fasteners may be representative of all of the historic periods at the site. Their analysis can provide critical information on what types of clothing people were wearing, what types of personal gear they were carrying, and the types of horse tack that were used at the site.

Go look!

**Button Type Collection, Cabinet 22 Drawer 5**

The basic laboratory analysis of buckles and buttons is relatively limited and is geared to cleaning the artifacts, packaging them for future analyses, and collecting basic data on their quantity, size, manufacturing methods and condition.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:**

BUCKLE
BUCKLE, BELT
BUCKLE, GARTER
BUCKLE, SUSPENDER
BUCKLE, TACK

BUTTON
BUTTON BACK
BUTTON, 2- HOLE
BUTTON, 3- HOLE
BUTTON, 4- HOLE
BUTTON, BALL
BUTTON, MILITARY
BUTTON, MOLDED

BUTTON, PHOENIX
BUTTON, SAUNDERS
BUTTON, TOMBAC

**N**: Identify the number of objects or fragments.

**Size (mm):** Record the size of the artifact using the size target (see General Measurement section).

**Material:** Bone
Glass (plus the color)
Iron
Plastic (plus the color)
Rubber
Shell
Stone
White Metal
Yellow Metal

**Button Variety Number:** Refer to Storm (1976) and Carley (1982) for descriptions.

**Description:** This field's entries will vary based upon what type of button is being analyzed.

**Notes:** Other information that is not captured in the above fields goes in this field.

## References


Carley, Caroline D.
1982 Buttons. HBC Kanaka Village/Vancouver Barracks 1977, pp. 173- 182. *Reports in Highway Archaeology 8.* University of Washington Office of Public Archaeology, Seattle.

Nayler, Peter (compiler)
1993 *Military Button Manufacturers from the London Directories 1800- 1899*. Archaeological Services National Historic Sites Canadian Heritage, Parks Canada, Ottawa, Ontario, Canada.

Storm, J.M.
1976 The Buttons. Kanaka Village/Vancouver Barracks 1974, pp. 116- 132. David H. Chance and Jennifer V. Chance. *Reports in Highway Archaeology No. 3*. Office of Public Archaeology Institute for Environmental Studies University of Washington, Seattle.

Ross, Lester A.
1976 Iron Buckles from Fort Vancouver. Fort Vancouver 1829- 1860: A Historical Archaeological Investigation of the Goods Imported and Manufactured by the Hudson's Bay Company, pp. 878- 881. Ms. on file, National Park Service, Vancouver, Washington.

1976 Historic and Archaeological Button Varieties from Fort Vancouver. Fort Vancouver 1829- 1860: A Historical Archaeological Investigation of the Goods Imported and Manufactured by the Hudson's Bay Company, pp. 593- 614. Ms. on file, National Park Service, Vancouver, Washington.

## Ceramics

**Degree of Difficulty: HIGH**

The ceramic category encompasses any objects made of fired clay, including pottery, dishes, figurines, doorknobs, insulators, etc. They are typically classified into three primary groups – earthenware, stoneware, and porcelain – based on the properties of the clay and the temperature to which they were fired.

Ceramic vessel sherds represent one of the most frequently analyzed artifact categories in historical archaeology, due to the large numbers of industrially manufactured ceramic vessels that were shipped world- wide in developing market economies. Here at the Vancouver National Historic Reserve, it is not uncommon for ceramic sherds to compose 25- 30% of the total number of artifacts recovered in an excavation. This reflects the durability of ceramic sherds in the archaeological record, while showing the relative fragility of ceramic vessels in everyday life. European- and American- made ceramic vessels of the 18th- 20th centuries can be used to interpret various behaviors, economic status, consumer choices, and gender and age differentiation of the individuals who utilized and disposed of them.

This introduction cannot teach you all that you need to know about ceramic vessel analysis. Indeed, it can take many weeks, if not months, of active analysis to grasp all ware types, decoration types, and vessel forms that are encountered here. However, this will help you become familiar with the vocabulary and types of vessels. Please schedule a short training meeting with a lab supervisor before beginning analysis. A particularly useful and concise introduction to ceramic ware types, and decorations commonly found at Fort Vancouver can be found in Linda Ferguson Sprague's thesis on San Juan Island Ceramics (1980: 15- 40). Information on more specific decoration types can be found in the references and archaeological reports listed below.

Go look!

**Spode Type Collection, Cabinets 1- 2**
**Ceramic Type Collection, Cabinet 5 Drawers 7- 10 & Cabinets 6- 7**

A short description of the most common types of ceramics is provided below:

**Earthenware:** A ceramic type that is typified by a soft porous opaque paste, which can vary in color from white to tan to gray. It is the lowest fired ceramic ware, and without a glaze, will allow liquids to penetrate into its body. When broken, these wares tend to be quite porous on the edges. Most earthenwares tend to be glazed on both sides, which may craze. This category of ware is the

most common found at Ft. Vancouver, and is represented by most tablewares such as plates, cups, saucers, and serving pieces.

**Stoneware:** A ceramic type that is typified by a hard opaque paste, varying in color from gray, to tan, to red. It is higher fired than earthenware, and will resist liquid penetration unless soaked for prolonged periods of time. Stonewares are typically glazed, most often with a "salt glaze" to enhance appearance and water resistance. Most vessels made of stoneware are utilitarian in nature and used for food transportation or storage, such as bottles, jars, jugs, and crocks.

**Porcelain:** A ceramic type that is typified by being highly fired and smooth, varying in color from white to gray. Due to its strong, compact nature, porcelains can be very thin, and are translucent when thin enough. Porcelains are fired to the point where they are nearly a glass, and are completely impermeable to water without requiring a glaze. Most porcelains recovered at Fort Vancouver are represented by wares exported from China and Japan, with grayish bodies, and blue hand- decorated designs. Many of theses are semi- vitrified and not technically true porcelains. Many of these are semi- vitrified and are not technically true porcelains, however we will classify them as such. Late 19$^{th}$ century and early 20$^{th}$ century Fort Vancouver porcelains tend to be Japanese, European, and American, and may have thin, clear glazes protecting decal or hand painted designs.

**Transferprint:** Though actually a decoration type, and not a ceramic ware, we include this as a major category in our analyses due to its high frequency at Fort Vancouver. Transferprinted wares were the most common type of decorative ware produced by the potteries in Staffordshire, England. Transferprinting involved engraving an image on a copper plate, inking the plate, then transferring the ink to an unfired clay vessel with a special thin paper. The vessel would be glazed and fired, leaving a permanent, rapidly replicable design. Most typically found on earthenware with a white body, transferware can be found with blue, red, green, brown, black, or pink designs. Transferprint on ironstone is also quite frequent for ceramics dating from the 1850s at the Vancouver National Historic Reserve.

**Ironstone:** A ceramic type that is of a harder consistency than earthenware, semi- vitrified, yet often softer than stoneware, and always white in body. This type was patented in England in 1813, and was quite common throughout the 19$^{th}$ century. Ironstone is typically white with a transparent glaze, undecorated, and often formed in angular or impressed designs. This type is also sometimes referred to as "white graniteware." Please see the Wetherbee (1996) reference for more information.

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:** EARTHENWARE (EW)
IRONSTONE (IR)
PORCELAIN (POR)
STONEWARE (SW)
TRANSFERPRINT (TP)

**N**: Identify the number of objects or fragments.

**Size (cm):** Record the size of the artifact using the size target (see General Measurement section).

**Description:** This field's entries will vary based on which ceramic type is being analyzed.

Earthenware: Color of body, and color and type of decoration, e.g.:

Bandedware
Bandedware, Catseye Decoration
Cottageware, (Describe Decoration)
(e.g. Blue hand painted plants)
Creamware
Lustreware
Mochaware
Shelledge
Redware, Brown Albany Slip
Redware, Brown Lustre Glaze
Redware, Brown Salt Glaze
Redware, Brown Slip Glaze
Redware, Clear Slip Glaze
Redware, Red Slip Glaze
Redware, White Tin Glaze
Redware, White Slip Glaze
Redware, Rockingham Glaze
Redware, Lustre Glaze Exterior, White Slip Interior
Redware, Yellow Slip Exterior, White Slip Interior
Redware, Brown Salt Glaze Exterior, White Slip Interior

Redware, Rockingham Exterior, White Interior
Whiteware, Brown Slip Glaze
Whiteware, Gold Leaf Rim Band
Whiteware, Mold Impressed Flower Petals
Whiteware, Scalloped Edge, Green Hand Painted
Whiteware, Undecorated
Whiteware, White Salt Glaze
Whiteware, With Gold Gilding
Whiteware, Black Stamped Makers Mark
Whiteware, Blue Hand Painted
Whiteware, Blue- Green Slip Glaze
Whiteware, Gothic Molded
Whiteware, Gothic Molded Shoulder
Whiteware, Green And Blue Underglaze Hand Painted
Whiteware, Molded Grass Blades
Whiteware, Molded Scallops
Whiteware, No Glaze
Whiteware, White Shelledge
Whiteware, Blue Shelledge
Whiteware, Green Shelledge
Whiteware, Soft Paste Molded
Whiteware, Overglaze Bands
Whiteware, Green Shelledge
Yellowware
Yellowware, Molded Raised Scallops

Stoneware: Color of body, and color and type of glaze:

Buff, Buff Salt Glaze Exterior, Brown Luster Interior
Buff, Buff Salt Glaze Interior And Exterior
Buff, Brown Salt Glaze Exterior, Clear Salt Glaze Interior
Buff, Brown Salt Glaze Exterior, Unglazed Interior
Buff, Brown Salt Glaze Exterior, Yellow Slip Glaze Interior
Buff, Brown Salta Glaze Exterior And Interior
Buff, Yellow And Brown Slip Glaze
Buff, Yellow Salt Glaze Exterior, Brown Slip Interior
Buff, Yellow Salt Glaze Exterior, Unglazed Interior
Buff, Yellow Salt Glaze Interior And Exterior
Clay Pigeon
Gray, Undecorated
Gray, Brown Salt Glaze Exterior, White Salt Glaze Interior

Gray, Brown Salt Glaze Exterior, Clear Slip Glaze Interior
Gray, Brown Salt Glaze Exterior and Interior
Gray, Brown Salt Glaze Exterior, Yellow Slip Glaze Interior
Gray With Clear Salt Glaze
Gray, Brown Slip Glaze Exterior, Unglazed Interior
Gray With Yellow Slip Glaze

Porcelain: Color of body, and color and type of decoration:

Electrical Porcelain
Gray With Blue Hand Painting
Gray With Red Hand Painting
White, Undecorated
White, Blue Hand Painting (or other colors)
White, Gold applied edge

Transferprint: Color(s) of transferprinted design:

Black
Blue
Dark Purplish Blue
Flow Blue
Flow Dark Blue
Green
Mulberry
Purple
Red

If the body of the ceramic is ironstone and not earthenware, specify that as well

Ironstone: Impressed shapes:

Angular
Fluted
Impressed Grapes
Impressed Wheat

**Form:** Record the vessel form as best as can be determined from the sherd. If you cannot determine the vessel form more specifically, use "Unknown," "Hollowware," or "Flatware," to the extent you can identify the vessel.

Ale Bottle

Blacking Bottle
Bottle
Bowl
Cup
Chamber Pot
Crock
Dinner Plate
Desert Plate
Flatware
Flower Pot
Fruit Dish
Ginger Jar
Hollowware
Ink Bottle
Jar
Jug
Mug
Pitcher
Sauce Boat
Snuff Jar
Soy Sauce Pot
Tea Pot
Plate
Pot
Platter
Saucer
Sewer Tile
Slop Bowl
Soup Tureen
Soup Plate
Vegetable Dish
Unknown
Wash Basin

**Type:** Record the component of the vessel that the sherd represents.

Base
Body
Foot
Handle
Lid
Rim
Spout

**Style:** Record the pattern name for Transferprint wares if determinable, e.g. "Broseley." Common patterns found that the Vancouver National Historic Reserve are found in Sussman (1978, 1979) and Chapman (1989).

**Manufacturer:** Record the name of the manufacturer if determinable. Since company names changed over time, be sure you use the correct version of the name for the date the piece was manufactured. Examples are:

Charles Meigh
Copeland & Garrett
W.T. Copeland
Dillwyn & Co.
Edward Challinor & Co.
Enoch Wood And Sons
G. Phillips, Thomas Godwin (Chapman, P. 146)
Henry & William Davenport
J. & M.P. Bell
James & Thomas Edwards
John And William Ridgeway
John Mier
John Thomson
Joseph Clementson
Marple, Turner & Co.
Minton, Stoke- On- Trent
Podmore, Walker & Co.
Ralph & James Clews
Robinson & Wood
Samuel Alcock
Spode, Various Others (See Chapman, P. 162
T. Hughes
T. J. & J. Mayer
T. Mayer
T.J. & J. Mayer
Thomas Dimmock Jr. & Co.
Thomas Edwards
Thomas Mayer
Unknown
Various
William Adams & Son
William Davenport & Co.
William Davenport Firm
William Ridgeway & Co.
Wood & Brownfield
Unknown

**Manufacture Dates:** For identified patterns, record the dates of manufacture. If the ceramic is 19th century Staffordshire of unknown type, it is likely of Hudson's Bay Company origin, and it is appropriate to use the dates of "ca. 1829- 1860."

**Surface Modifications:** Record the presence of any of the following surface modifications:

Burned
Crazed
Pot Lidded
Use Wear

**Place of Manufacture:** Record the place where the ceramic was likely made:

China
England
Europe
Japan
USA
Unknown

**Notes:** Record any other relevant information you feel is necessary for this ceramic sherd.

## References


Chance, David H. and Jennifer V. Chance
1976 Kanaka Village/Vancouver Barracks, 1974, pp. 61- 105. *Reports in Highway Archaeology 3*.Office of Public Archaeology, University of Washington, Seattle.

Chapman, Judith Sanders
1989 French Prairie Ceramics: The Harriet D. Munnick Archaeological Collection Circa 1820- 1860: A Catalog and Northwest Comparative Guide. *Anthropology Northwest No. 8.* Department of Anthropology, Oregon State University, Corvallis.

Gusset, Gérard
1980 Stoneware: White Salt- Glazed, Rhenish and Dry Body. *History and Archaeology 38*, Parks Canada, Quebec.

Lueger, Richard
1981 Ceramics from Yuquot, British Columbia. *History and Archaeology 44: 104- 168, The Yuquot Project, Volume 3*, Parks Canada, Quebec.

Ross, Lester A.
1976 Fort Vancouver Archaeological Report 1829- 1860, pp. 187- 539. National Park Service, Fort Vancouver National Historic Site, Vancouver, Washington.

Schiffer, Herbert, Peter Schiffer, and Nancy Schiffer
1975 *Chinese Export Porcelain Standard Patterns and Forms, 1780 to 1880*. Schiffer Publishing Ltd., Atglen, Pennsylvania.

Sprague, Linda Ferguson
1980 San Juan Ceramics. Master's Thesis, University of Idaho.

Sussman, Lynne
1978 A Preliminary Catalogue of Non- Copeland Patterns Associated with the Hudson's Bay Company. *Parks Canada Manuscript Report Number 430*. Quebec, Canada.

1979A Spode/Copeland Transfer- Printed Patterns. *Canadian Historic Sites Occasional Papers in Archaeology and History No. 22*. Quebec, Canada

1979b The Ceramics of Lower Fort Garry: Operations 1 to 31. *History and Archaeology No. 24*, Parks Canada, Quebec.

1997 Mocha, Banded, Cat's Eye, and Other Factory- Made Slipware. *Studies in Northeast Historical Archaeology, Number 1*. Council for Northeast Historical Archaeology, Boston, Massachusetts.

Wetherbee, Jean
1996 *White Ironstone: A Collector's Guide*. Antique Traders Books, Dubuque, Iowa.

## Coal, Coke, Clinker and Slag

**Degree of Difficulty: LOW**

**Coal** is a shiny, opaque black mineral, with squared angles, and consists of carbonized plant matter. **Coke** is a very porous, lightweight, black and gray solid that is the resulting of burning coal into a pure form of carbon. **Clinkers** are porous, sharp edged, incombustible materials that were fused together during the forging process. **Slag** is a smooth, glassy, shiny, fused material resulting from the forging process.


**Lab Examples of Coal, Coke, Clinker, and Slag**

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in assigned lot number

**Spec:** Fill in assigned specimen number

**Object:** COAL
COKE
CLINKER
SLAG

**N:** Identify the number of objects or fragments (if possible). In many cases there will be many fragmentary pieces that will defy counting. If this is the case, leave the N field blank and note "many fragments" in the Notes field.

**Weight (g):** Record the weight of the object or the entire lot of fragments.

**Description:** Describe any unusual observations.

**Notes:** Other information that is not captured in the above fields goes in this field.

## Glass, Flat

**Degree of Difficulty: LOW**

Flat glass is assumed to be window glass unless it has a silver residue left over from mirroring. If you're not sure that a glass sherd is flat, it helps to feel it without looking. You can often feel a curve that you cannot see. You can also place the piece on a flat surface and see if it lies flat. It is always colorless, light aqua, or light green. It has no curve, panel, or design.

The analysis of window glass is one of the more tedious lab activities you will encounter. Despite its appearance, window glass can tell us many things about a site: the presence or absence of structures, where windows were placed on a building, and sometimes even construction and demolition dates. The varying thickness of window glass is tied to specific manufacture date ranges in the 19th century. Creating a distribution graph from thickness measurements can give us rough dates for a structure, provide information of maintenance and modification, and other pertinent architectural details.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number

**Spec**: Fill in the assigned specimen number

**Object**: WINDOW GLASS
MIRROR GLASS

**N**: Identify the number of objects or fragments.

**Size (mm)**: Record the size of the artifact using the size target (see General Measurement section).

**Thickness (mm)**: Using digital calipers, measure thickness to two decimal places in mm.

**Notes:** Any other relevant observations.

## References

Chance, David H. and Jennifer V. Chance
1976 *Kanaka Village/Vancouver Barracks 1974*, pp. 248- 255. Office of Public Archaeology, Institute for Environmental Studies, University of Washington, Seattle, Washington.

Roenke, Karl G.
1977 Flat Glass: Its Use as a Dating Tool for Nineteenth Century Archaeological Sites in the Pacific Northwest and Elsewhere. *Northwest Anthropological Research Notes*, 12(2).

## Glass, Vessel

**Degree of Difficulty: HIGH**

The majority of glass sherds will be analyzed in this category. Bottle, glassware, and lamp sherds are all categorized as vessel glass. Statistically, most of the sherds will be fragments of bottles. However, if you don't have enough information to assign a specific object name, don't guess: use the generic name Glass Sherd. There are many different types of bottles found at the Vancouver National Historic Reserve. Familiarize yourself with the different types before you begin. Review the chapter about glass in Chance and Chance (1976) and Carley (1982), and the Manufacturing Techniques section in Jones and Sullivan (1989: 17- 67) before you start.

Go look!

**Bachelors' Quarters Privy assemblage**
**Cabinet 40 Drawer 4- 5, Cabinet 41 Drawer 2- 8,**
**Cabinet 43 Drawer 3- 4, Cabinet 44 Drawer 5- 6**

In Fort Vancouver strata, the majority of bottle glass sherds are varying intensities of olive green, though aqua, colorless, and light green are also frequently found. In U.S. Army strata, the amount of amber sherds increases in frequency. The colors generally associated with different types of bottles are listed below in the "Object" category.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in assigned lot number

**Spec**: Fill in assigned specimen number

**Object Name**:

| | |
|---|---|
| BOTTLE GLASS | |
| BOTTLE, ALCOHOL | (green/olive, alcohol type unknown) |
| BOTTLE, BEER | (amber) |
| BOTTLE, BRANDY | ("black") |
| BOTTLE, CASE | (square, dark olive to black) |
| BOTTLE, CHAMPAGNE | (green) |
| BOTTLE, CONDIMENT | (green/aqua/colorless) |
| BOTTLE, COSMETIC | |

| | |
|---|---|
| BOTTLE, FOOD | (green/aqua/colorless, wide mouth) |
| BOTTLE, LIQUOR | (olive, hard liquors only) |
| BOTTLE, MEDICINE | |
| BOTTLE, RUM | ("black") |
| BOTTLE, SODA WATER | (early term inc. soft drink bottles) |
| GLASS SHERD | |
| GLASS SHERD, GASTROLITH | |
| GLASS, CHAMPAGNE | (colorless) |
| GLASS, WINE | (colorless) |
| GLASSWARE SHERD | |
| JAR | |
| LAMP GLASS | (colorless and extremely thin) |
| THERMOMETER | |
| TUMBLER | (colorless, thick flat base, cut design) |
| VIAL | (colorless, thin, narrow diameter) |

**N**: Number of artifacts

**Size (mm)**: Record the size of the artifact using the size target (see General Measurement section).

**Description**: Amber
Aqua
Blue
Colorless
Dark Olive (include very dark olive glass that appears black)
Green
Light Aqua
Light Green
Olive
Opaque White

**Form:** Bottle
Flask
Glass Rod
Jar
Panel Bottle
Lamp Glass
Table Glass
Tumbler
Stem Ware
Unknown

**Type**: Base
Body
Finish
Foot
Heel
Lip
Mamelon
Neck
Push Up
Pontil Mark
Rim
Shoulder
String Rim

**Seam**: Y or N

**Style**: Embossed

**Manufacture Method**: Blown into mold
Free blown
Machine made
Unknown

In the manufacture of a **free blown** bottle, no mold is used so there are no seam lines, molded decorations, or embossing. The vessel will generally not be symmetrical in body, shoulder, neck, or base. The bottle will have a "kick- up" or "push- up" in the base from the glassblower's pontil. The body of the bottle will be shiny and smooth, though the neck may have twist lines from the bottlemaker forming the neck using twisting and pulling motions with the blowpipe.

A **mold blown** bottle will generally have a textured, "dimpled" or "orange peel" appearance on the body. Generally, the base, body, and shoulder of the vessel will be symmetrical in form, while the neck and finish are often hand finished and asymmetrical. Bases can vary, from being symmetrical with embossing, to having mold scars and a pontil mark. There may be mold seams vissible on almost any part of a vessel, although some molds, such as dip- molds, will not leave seams at all (review Jones and Sullivan 1989: 24- 26).

A **machine made** bottle will generally have a smooth, glossy finish, with the possibilities of embossing, decorations, and multiple mold seams. The entire bottle from base to finish will be symmetrical in form, with no tremendous variation in glass thickness. Mold seams may be present on any part of the bottle and especially on the finish and base (it will not have a pontil scar or twist lines). Wandering "Ghost" seams may be present, especially on the body (Jones and

Sullivan 1989: 37). The most common machine made bottles of the first half of the 20th- century were made on the Owens Suck and Blow machine (ca. 1904- 1960), which typically leaves a distinctive, feathery suction scar on the base (Jones and Sullivan 1989: 38- 39).

**Surface modifications**: Burned
Crazed
Etched
Flaked
Gastrolith
Scratched
Use Wear

**Notes**: Maker's marks, labels, and any other relevant observations

## References


Carley, Caroline D.
1982 *HBC Kanaka Village/Vancouver Barracks 1977*, pp. 89- 150. Office of Public Archaeology, Institute for Environmental Studies, University of Washington, Seattle, Washington.

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1976 *Kanaka Village/Vancouver Barracks 1974*, pp. 163- 188. Office of Public Archaeology, Institute for Environmental Studies, University of Washington, Seattle, Washington.

Fike, Richard
1987 *The Bottle Book A Comprehensive Guide to Historic, Embossed Medicine Bottles*. Gibbs M. Smith, Inc., Salt Lake City.

Jones, Olive R.
1986a *Glass Tablewares 1850- 1870. Source Book*. Ms., Parks Canada.
1986b *Cylindrical English Wine & Beer Bottles, 1735- 1850*. National Historic Parks and Sites Branch, Environment Canada- Parks, Quebec.

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1989 *The Parks Canada Glass Glossary for the Description of Containers, Tableware, Flat Glass, and Closures*. National Historic Parks and Sites, Canadian Parks Service, Quebec.

Toulouse, Julian Harrison
1972 *Bottle Makers and Their Marks*. Thomas Nelson, Inc. Nashville, Tennessee.

Thompson, James H.
1947 *Bitters Bottles*. Century House, Watkins Glen, New York.

## Lithics, Fire- Cracked Rock (FCR)

**Degree of Difficulty: HIGH**

Prior to analyzing Fire- Cracked Rock (FCR) you will need individual training from an NPS cultural resources staff member, and will need to look at several kinds of FCR. Also, reading the article by Wilson and DeLyria (1999) about experimental production and analysis of FCR in a camas oven—a feature very common in the prehistoric archaeological sites of the region.

Analyzing FCR involves identifying traits associated with heat modification. Classifying FCR starts with raw material determination, and then determining whether or not the material is a core, spall, and recording the extent and type of heat modification apparent on each fragment. Discoloration, amount of cortex, how rounded the material is, evidence for spalling, cleavage, and incipient cracks are all evidence of heat modification.

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**Unit:** Fill in the assigned unit number.

**Level:** Fill in the assigned level number.

**Lot:** Fill in the assigned lot number.

**Spec:** Fill in the assigned specimen number.

**Object:** FCR

**N:** Identify the number of objects or fragments.

**Mat. Type:** Record the raw material type. Most will be Basalt/Andesite or Quartzite.

Chert (includes chalcedony, flint, "agate", or what is commonly labeled CCS or cryptocrystalline silicate)
Basalt/Andesite (extrusive volcanic, non- glassy)
Obsidian (extrusive volcanic, glassy)
Petrified Wood
Quartzite
Other (indicate what type)

**Max Dim. (mm):** Using the calipers, record the maximum dimension of each fragment.

**Weight (g):** Record the weight in grams of each fragment or the group of fragments.

**Discolor:** Record the color and the percent of discoloration present

**Color:** Record the color of discoloration (usually red or black).

**Area %:** Record the percent of surface area covered by the discoloration

**Black %:** Record the amount of area covered just by black, if present.

**Core/Spall:** Record whether the fragment is a core, or a spall, or neither.

**Spherericity [sp]:** Record the roundness of the fragment with the following terms:

Round: (edges are rounded and fragment is spherical)
Sub- Rounded: (edges are mostly rounded and fragment is mostly spherical)
Sub- Angular: (edges are mostly sharp or angular, and fragment is somewhat blocky)
Angular : (edges are sharp and fragment is blocky)
Ovoid: (edges are rounded, but fragment is oblong, like an oval)

**% Cortex:** Record the percent of cortex present on the fragment (see Lithic Debitage cortex category for explanation of cortex).

**Min. Spalls:** Record the minimum number of spalls that have been removed from the surface. Spalls leave scars on the surface, much like flakes removed from the surface of a core or tool.

**Cleavage:** Record whether or not the fragment indicates cleavage planes in the fracturing process. Cleavage planes will be different for each material type, and requires experience to identify, but generally will be very rectangular in profile.

**Incip. Cracks (Y/N):** Record the presence (Y) or absence (N) of incipient cracks, which are small cracks or fissures on the surface of the material as a result of the expansion and contraction of the material due to heating.

**Notes:** Other information that is not captured in the above fields goes in this field, such as unusual breakage patterns, unique characteristics, etc.

## References

Wilson, Douglas C., and David V. DeLyria
1999 The Experimental Reduction of Rock in a Camas Oven: Towards and Understanding of the Behavioral Significance of Fire- Cracked Rock. *Archaeology in Washington*, 7: 81- 90.

## Lithics, Debitage

**Degree of Difficulty: HIGH**

Lithic debitage result from the manufacture of lithic tools, and are considered an important part of the overall **lithic reduction sequence**. The word **lithic** literally means "stone." **Debitage** is a term that indicates lithic flakes that have no recognizable usewear or retouch, which indicate that the flake may have been a tool, or made when a tool was re- sharpened or modified in some way. Since lithic tools are made from taking away stone to shape an overall piece, the lithic reduction sequence refers to the entire process of lithic manufacture, use, and reuse. Many years of experimental and archaeological research has created an understanding of the connection between debitage and the processes, techniques and stages of lithic manufacturing. Characteristics of debitage may indicate what methods were used to create the flake, and what stage in the lithic reduction sequence the flake may have been created. However, single flakes tell less than the general trends in assemblages from levels, units and sites. Therefore, analyzing lithic tools requires detailed understanding of the processes of lithic manufacture, or flintknapping. Analyzing lithics can be very complex. You will encounter new terminology and several unique processes of manufacture. Do not attempt lithic analysis until you have received direct training in lithic tool analysis. If you have received training, you should read Byram (1996) and the lithic terminology list before you begin.

Scott Byram developed our classification system for the non- expert observing lithics in the field, and uses physical attributes and measurements to classify lithic debitage that can be used to assess patterns of lithic reduction that may be represented in an assemblage or assemblages. Each category will be discussed in the appropriate section below.

---

**Unit:** Fill in the assigned unit number.

**Level:** Fill in the assigned level number.

**Lot:** Fill in the assigned lot number.

**Spec:** Fill in the assigned specimen number.

**Object:** DEBITAGE, LITHIC

**N:** Identify the number of objects or fragments.

**Size (1,2,3,4):** Plan size grade is measured in concentric rings from 1cm to 4cm. Determine the size by using Byrams' size grade target, which is different from the size target for other material classes.

To find the appropriate size grade, use the maximum dimension of the flake—at least 95% of the mass of the flake must fit within the circle. Use a centimeter scale for flakes larger than 4cm. Plan size of lithic debitage, combined with other attributes, provides key information about the reduction strategy used by the flintknapper. Any flake over size 2 will be analyzed differently from smaller flakes of size 1 (see page 2 of the lithic debitage analysis form).

**Material Type (B,O,C,M,and U)**: Determining material type requires basic knowledge of rock identification. If you are unsure of material types, ask a supervisor.

Record material type using the following abbreviations:

- E: Extrusive Volcanic- - Non- glassy (basalt, andesite, etc.)
- O: Extrusive Volcanic- - Glassy (obsidian)
- C: Sedimentary/Metamorphic Silicates—(chert, chalcedony, jasper, agate, etc.; a common but misleading term is "crypto- crystalline silicates" or "CCS")
- M: Micro- crystalline Silicate—(quartzite)
- U: Unknown or other (specify other material in notes column)

Different raw materials are used in different lithic reduction strategies, and the availability and suitability of a given raw material for a task may influence these strategies. Since obsidian is sharper, and flakes easier, it is more likely to be used for tools such as projectile points when it is abundant over other materials such as basalt and quartzite. Basalt and quartzite, in this situation, would be used for more mechanical tasks such as woodworking or digging, since they are harder and less sharp. If obsidian is rare compared to other materials, it will often be reused—reshaped into other, smaller tools. Other materials in this situation may be disposed of more quickly, and thus might be larger.

**Cortex (N, G,W1, W2) and (Some or All):** Cortex is the weathered rind of a raw material, often presenting as a "dirty," or patinated surface of a different color and texture than the flake surface. Cortex will only be found on the **dorsal** (exterior) side of the flake, and the **ventral** (interior) side faced the un- exposed interior of the core.

Record cortex using the following abbreviations:

N: No cortex present
G: Geological (primary source) cortex present
W1: Weathered, rough (secondary source, stream tumbled)
W2: Weathered, smooth (secondary source, beach or windblown surface)
C: Cortex present but type uncertain

Also record whether or not only some cortex is present (SOME) or if the dorsal surface is entirely covered in cortex (ALL).

The presence of cortex on most of the debitage in an assemblage may indicate that the reduction from a local source of the raw material was occurring. The type of cortex—whether from the primary context of the deposit of raw materials such as a flow of obsidian, or from a secondary source where weathering occurs, such as a stream channel—may indicate the kind of source location the raw material came from.

Primary source or geological cortex varies from material type to material type, and requires observing many specimens to recognize. Generally, it is smoother, and more crenulated than secondary source cortex.

Secondary source cortex is divided into two types, weathered, rough and weathered, smooth. Rough weathering indicates some water tumbling, which creates incipient cone cortex (more rough, angular edges, it may require magnification by hand- lens to recognize). Smooth weathering indicates long-term water and or wind exposure on a beach or windblown surface, etc.

**Evidence of Heat Treatment - - Chert material only (Y or N) if Y: (PL, DL, CF)**: Record presence (Y) or absence (N), and if evidence is present, indicate the sort of physical evidence for heat treatment observed from the following list of abbreviations:

PL: Potlid scars
DL: Differential lustre/color on flake scar surfaces
CF: Crenulated fractures

These features result from the differential heating and cooling of the raw material. Potlid scars result from flakes that pop off of the surface during the treatment. Differential lustre usually involves a waxy lustre as opposed to more glassy or shiny lustre. Crenulated fractures are usually very small, serrated fractures, and are difficult to recognize without a hand lens unless they are numerous and large.

Heat treatment of chert changes the knapping properties of the raw material. It is time consuming, and thus indicates an investment by the flintknapper to improve material quality, which suggests that the focus of lithic reduction is not expedient tool manufacture. Heat treatment of chert is generally done early in the process of lithic reduction, so a high frequency of chert debitage with signs of heat treatment in an assemblage may indicate that early stage lithic manufacture was an activity at the site.

**Debitage Category (A, B, C, D, and E)**: Use the following key to place each flake into the appropriate category:

A: Bipolar Debris (attributes of bipolar manufacture present)
B: Debris (no evidence of bipolar reduction, but no single ventral surface present either)
C: Flake Fragment (has single ventral surface, but no platform)
D: Broken Flake (has platform, but margins are incomplete)
E: Complete Flake (has platform, single ventral surface, and margins intact)

The step in the analysis will separate flake fragments, debris and bipolar debris which will not receive further analysis. Broken flakes and complete flakes will be analyzed further.

The proportion of flakes in the categories above provides very general information about what reduction strategies may have been responsible for the assemblage, though this assessment must be made cautiously, since different reduction strategies used at a single assemblage may confound any pattern inferred from this single- variable.

**Notes:** Record any other information, unusual observations that you feel are relevant and/or diagnostic.

**At this point, you will proceed to the second side of the analysis form with only broken flakes and complete flakes, and analyze them based on which size class they fall in. You will record different attributes in size class 2 –4 than in size class 1. Make sure to fill in the unit, level, lot, spec, object, and number categories again on the second side to preserve provenience.*

**Flakes Size 2+**: Platform- bearing flakes give the most diagnostic information about technology of lithic manufacture. The following attributes are used because they provide information that, on the assemblage level, can help determine stages of lithic reduction represented in the assemblage.

Refer to the illustrations below for examples of the attributes you will record.

**Platform Thickness- - Plat. Th. (mm):** This is measured using calipers, measuring the thickness between the dorsal and ventral faces.

**Platform Facets—Plat. Facets (S, M, and C):** Record whether single or multiple facets occur on the platform, or whether there is cortex on the platform.

**Number of Dorsal Scars less than 2mm- - # Dorsal Scars (>2mm):** Record the number of dorsal scars, excluding platform preparatory flakes, which are greater than 2 mm in size.

**Presence of Opposing Scars—Opp. Scars (Y or N):** Note the presence or absence of opposing scars initiated from beyond the distal edge of the flake.

**Large Undulations or Fissures on Ventral Surface—Undul. or Fissures (Y or N):**
Record the presence or absence of pronounced undulations or fissures on the ventral surface.

**Flakes Size 1***:* Record the following attributes for complete or broken flakes in size grade 1.

Refer to the illustrations below for examples of the attributes you will record.

**Platform Thickness—Plat. Th. (mm):** This is measured using calipers, measuring the thickness between the dorsal and ventral faces.

**Platform Contour—Plat. Contour (C or F):** Determine whether the platform contour is concave (C), convex (F), or flat (also F).

**Platform Angle—Lateral Plat. Angle (degrees):** Estimate the angle between the main axis of the flake and the platform (see illustration) using the angle gauge provided.

**Flake Width (mm):** Record the maximum width of the flake using calipers in mm.

## References

Byram, Scott
1996 On- Site Lithic Analysis Manual. Prepared for Malheur National Forest. On file at Malheur National Forest, John Day, Oregon.

Pettigrew, Richard
1981 A Prehistoric Culture Sequence in the Portland Basin of the Lower Columbia Valley. Anthropological Paper No.22, University of Oregon. Eugene, Oregon.

## Lithics, Tools, Cores, and Edge Modified Flakes

**Degree of Difficulty: HIGH**

Analyzing lithic tools, cores and edge- modified flakes is similar to analysis of debitage with a focus on material type, size of attributes and typology. Classifying projectile points (tools) in the upper Willamette Valley Basin requires use of the Pettigrew (1981) point system typology, which divides points into dart points and arrow points. In assemblages, tool types can be used to determine relative age of an assemblage, though Fort Vancouver has little prehistoric material, so this attribution is not as important a goal.

---

**Unit:** Fill in the assigned unit number.

**Level:** Fill in the assigned level number.

**Lot:** Fill in the assigned lot number.

**Spec:** Fill in the assigned specimen number.

**N:** Identify the number of objects or fragments.

**Object:**
PROJECTILE POINT
FLAKE (for flakes that are edge- modified but tool- status unclear)
FLAKE, TOOL (for flakes that are edge- modified and clearly tools)
CORE
CORE, TOOL (for flakes with evidence of retouch for tool use)
STONE, WORKED?

Specific artifact types, such as dart points, arrow points, drills, scrapers etc. will be recorded under Key Description.

**Length (mm):** Using the calipers, record the length of the artifact.

For Projectile Points: Record the maximum length from point to the base if whole, or the maximum length overall if broken.

For Other Tools: Record maximum length.

For Cores: Record maximum length.

For Edge Modified Flakes: Record Maximum Length

**Max Width (mm):** Use calipers to measure the maximum width of the lithic artifact.

**Thickness—TH. (mm):** Using calipers, measure the maximum thickness (at a 90- degree angle to the width and length).

**Width Top of Neck (mm):** Measure the width at the top of the neck using calipers. (For projectile points only).

**Width Base of Neck (mm):** Measure the width at the base of the neck using calipers. (For projectile points only).

**Material Type:** Record the raw material type

Chert (includes chalcedony, flint, "agate", or what is commonly labeled CCS or cryptocrystalline silicate)
Basalt/Andesite (extrusive volcanic, non- glassy)
Obsidian (extrusive volcanic, glassy)
Petrified Wood
Quartzite
Other (indicate what type)

**Color:** Record the common- name for the color or colors of the lithic material.

**Opacity:** In general, this category can be divided into three entries:
Opaque
Transparent
Both

Most will be opaque, and sometimes there will be a mix of both types.

**Cortex (Y or N) and (Some or All):** Record the presence (Y) or absence (N) of cortex, (see Lithic Debitage cortex category for explanation of cortex). Also record whether or not only some cortex (SOME) is present or all of the dorsal surface (flakes and/or cores) is covered in cortex (ALL).

**At this point, you will proceed to side two of this form. Both sides must be completed for all artifact types. Be sure to fill in the unit, level, lot, spec, object, and number to preserve provenience information.*

**Completeness (Y or N):** Record whether the piece is complete (Y) or incomplete (N). Record specific or unusual breakage patterns in the Notes section.

**Evidence of Heat Treatment - - Chert material only (Y or N) if Y: (PL, DL, CF)**: Record presence (Y) or absence (N), and if evidence is present, indicate the sort of physical evidence for heat treatment observed from the following list of abbreviations:

PL: Potlid scars
DL: Differential lustre/color on flake scar surfaces
CF: Crenulated fractures

These features result from the differential heating and cooling of the raw material. Potlid scars result from flakes that pop off of the surface during the treatment. Differential lustre usually involves a waxy lustre as opposed to more glassy or shiny lustre. Crenulated fractures are usually very small, serrated fractures, and are difficult to recognize without a hand lens unless they are numerous and large.

Heat treatment of chert changes the knapping properties of the raw material. It is time consuming, and thus indicates an investment by the flintknapper to improve material quality, which suggests that the focus of lithic reduction is not expedient tool manufacture.

**Type Style (Pettigrew):** Determine the type style from the Pettigrew system typology provided. Enter the number given. First, determine if you have a Dart point (1- 6d) and Arrow point (7- 16) based on general size and shape. Next, look at the presence of a stem, shape of the shoulders, presence of barbs, and whether the base is expanding (larger at the base than at the top) or contracting (larger at the top than base). These attributes will determine the correct type number.

**Notes:** Other information that is not captured in the above fields goes in this field, such as unusual breakage patterns, unique characteristics, etc.

**Key Description:** Record the more specific point type (such as dart, arrow, etc.) or tool, core, flake types (edge- modified flake, burin, drill, scraper, bipolar core, microblade core, etc.)

## References

Pettigrew, Richard
1981 A Prehistoric Culture Sequence in the Portland Basin of the Lower Columbia Valley. Anthropological Paper No.22, University of Oregon. Eugene, Oregon.

## Metal Fragments

**Degree of Difficulty: LOW**

Metal fragments of various types are commonly found here. This category covers unidentifiable, heavily degraded fragments of cupreous, ferrous, or white metal. Any metal artifact that is identifiable as an object (even if you're not sure what it is) should be categorized as Miscellaneous Metal Object.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:** Object names should reflect the specific type of metal:

ALUMINUM FRAGMENT
BRASS FRAGMENT
BRONZE FRAGMENT
COPPER FRAGMENT
CUPREOUS FRAGMENT
FERROUS FRAGMENT
IRON FRAGMENT
LEAD FRAGMENT
TIN FRAGMENT
WHITE METAL FRAGMENT

**N**: Identify the number of fragments.

**Weight (g):** Record the weight of the entire lot of fragments.

**Description:** Other pertinent information that is not captured in the above fields goes in this field.

## Miscellaneous Metal Objects

**Degree of Difficulty: MEDIUM**

Miscellaneous artifacts of iron, steel, cupreous metal, aluminum or lead are often recovered. These metal objects are often the remnants of larger, decomposed artifacts or industrial processes.

The laboratory analysis of miscellaneous metal objects is relatively basic and is focused on collecting data on quantity, size, manufacturing methods, and condition. There is no all- inclusive reference or training manual for this very broad category of artifacts, so please feel free to ask questions of a lab supervisor if you are not sure what a metal artifact is or of what it is made.

---

**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:** Object names should reflect a specific tool or object type, e.g.: a coin would be identified as "COIN." If you don't know the artifact type or the type of metal from which the artifact was made, use one of the following terms:

METAL ARTIFACT
METAL ARTIFACT, AUTOMOTIVE
METAL ARTIFACT, ELECTRICAL
METAL PLATE
METAL SHEET

If the artifact is made of iron, use the following terms:

IRON ARTIFACT
IRON BAND
IRON SHEET

If the artifact is made of lead, use the following terms:

LEAD ARTIFACT
LEAD BAND
LEAD SHEET
LEAD STRIP

If you are sure that the artifact is cupreous metal, but you are unsure if it copper or brass, use the following terms:

CUPREOUS ARTIFACT
CUPREOUS SHEET

If you are sure that the artifact is made of brass, use the following terms:

BRASS ARTIFACT
BRASS SHEET

If you are sure the artifact is made of copper, use the following terms:

COPPER ARTIFACT
COPPER SHEET

If you are sure the artifact is made of aluminum, use the following terms:

ALUMINUM ARTIFACT

**N**: Identify the number of objects.

**Size (cm):** Record the size of each metal artifact in mm. Use the size target for artifacts that are smaller than 50 mm in maximum dimension. For those artifacts that are larger than 50 mm, use calipers or a tape.

**Weight (g):** Record the weight of the objects by size category. For example, all the fragments measured at 20 mm on the size target would be weighed together, all those measured at 30 mm would be weighed together and recorded on the next line, etc.

**Description:** Other information that is not captured in the above fields goes in this field.

## Munitions

**Degree of Difficulty: MEDIUM**

Munitions are any objects that were manufactured for the purposes of defense or for hunting game, especially weapons and ammunition.

Although munitions are not extremely common archaeological finds at the Vancouver National Historic Reserve, they occur often enough to warrant a separate category of analysis. Munitions from early 19th century contexts can vary greatly in comparison to those from late 19th century and 20th century contexts. Flintlock black powder muskets were common to fur trade contexts, while the U.S. Army arrived at Vancouver Barracks with percussion cap rifles and muskets. The Hudson's Bay Company and U.S. Army were also outfitted with naval cannons and field howitzers, all of black powder, muzzle- loading design. By the 1870s, the U.S. Army was outfitted with metallic cartridge, breech- fed rifles, and continued to use this technology until the end the present.

The basic laboratory analysis of munitions is relatively limited and is geared to cleaning the artifacts, packaging them for future analyses, and collecting basic data on their quantity, size, manufacturing methods, and condition.

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:**
BARREL
BARREL BAND
BULLET
BUTT PLATE
CANNON BALL
CARTRIDGE
COCK
FRICTION PRIMER
FRIZZEN
GRAPESHOT
GUN FLINT
LOCKPLATE
MAINSPRING

MINIÉ BALL
MUSKET BALL
PELLET
PERCUSSION CAP
SHOT
SLING SWIVEL
TRIGGER GUARD

**N:** Identify the number of objects or fragments

**Size (cm):** For actual ammunition (musket balls, bullets, grape shot, cannon balls), give the diameter of the round using the calipers. If the ammunition has been fired and is deformed, give the maximum dimension and record as "fired." If the object is not ammunition, give the maximum dimension using the calipers or a tape (if necessary).

**Description:** This field's entries will vary based upon what type of munition is being analyzed.

Metallic Cartridges: State caliber (e.g. .22, .30- 06, .45- 70), and manufacturer (This information can often be determined by looking at the headstamp on the cartridge).

Gun Flint: English Cut (over 90% are English cut)
French Cut

Musket Balls and Bullets: Fired (look for rifling marks)
Not Fired

**Notes:** Other information (such as maker's marks, rifling marks, serial numbers, etc.) that is not captured in the above fields goes in this field.

**Weight(g):** Record the weight of the object.

## References


Barnes, Frank C.
1976 *Cartridges of the World*. DBI Books, Inc., Northfield, Illinois.

Chance, David H. and Jennifer V. Chance
1976 Kanaka Village/Vancouver Barracks 1974, pp. 187- 195, *Office of Public Archaeology, Reports in Highway Archaeology No. 3.*, University of Washington, Seattle, Washington.

Edwards, William B.
1982 *Civil War Guns*. Castle, Secaucus, New Jersey.

Hussey, John A.
1973 Armament and Furnishings of the Fort Vancouver Bastion. National Park Service, Denver, Colorado.

Pioneer Press
1982 *Indian Trade Guns*. Pioneer Press, Union City, Tennessee.

Russel, Carl P.
1998 *Firearms, Traps, and Tools of the Mountain Men*. University of New Mexico Press, Albuquerque.

White, H.P., B.D. Munhall, and Ray Bearse
1980 *Centerfire Pistol and Revolver Cartridges, Cartridge Identification, Volumes I and II*. A.S. Barnes and Company, New York.

## Nails, Square

**Degree of Difficulty: MEDIUM**

The most commonly recovered metal architectural fasteners at the Vancouver National Historic Reserve are nails. Analysis of nails can provide critical information on architectural details, and presence and placement of structures across the entire site.

A *Nail Identification Guide* has already been prepared in a 3- ring binder, and is available for your use in the lab. This guide has illustrations of FOVA nail types, excerpts from Fort Vancouver archaeological reports that discuss nails, and other nail chronology and technology articles. Please read this guide before starting analysis.

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:** NAIL, MACHINE- CUT AMERICAN
NAIL, MACHINE- CUT BRITISH
NAIL, SQUARE
NAIL, WROUGHT

**N**: Identify the number of objects or fragments.

**Length (cm):** Only complete nails are measured. For wrought nails, measure their length with calipers. For machine- cut nails, you will leave this field blank and record the penny size only. If a machine- cut nail falls between penny sizes, measure its length with calipers and record that information here.

For incomplete nails, group the **lot** according to level of completeness. For example, all incomplete nails with heads (in this lot) would be counted together and recorded on one line. Nails with only shanks would be counted together and recorded on an additional line.

**Common Size (d):** Nails are commonly classified by their penny (d) weight, a system attributed to late 15th century England, when nails were sold by the hundred, e.g. 8d (pence) per 100 nails. This system probably originated with a weight scale per 100 nails, but soon switched to denote the length of a nail. The penny size chart summarizes the most common penny sizes. Record the penny size for complete machine- cut nails.

**Completeness:** Record the level of completeness of each nail using the categories below:

| | |
|---|---|
| Complete | (C) |
| Head | (H) |
| Shank | (S) |
| Tip | (T) |

**Style:** Refer to the *Nail Identification Guide* for FOVA Type Numbers. Use the illustrations and descriptions from these typologies to assign a FOVA Type Number to complete nails. If the nail does not match a defined type, use "Unknown."

**Surface Modifications:** Please note any observed modifications to the artifact, such as:

| | |
|---|---|
| Bent Shaft | (BS) |
| Broken Tip | (BT) |
| Flattened | (F) |
| Missing Head | (MH) |
| Sheared | (S) |

**Notes:** **O**ther information that is not captured in the above fields goes in this field.

## References


Magedanz, Douglas (Compiler)
2000 *Nail Identification Guide: A Compilation of Articles Describing Nail Technologies, Terms, and Date Ranges Common to Fort Vancouver National Historic Site*. National Park Service, Fort Vancouver National Historic Site, Vancouver, Washington.

## Nails, Wire

**Degree of Difficulty: MEDIUM**

As pointed out in the previous section, the most commonly recovered metal architectural fasteners at the Vancouver National Historic Reserve are nails. Wire nails are especially common throughout the U.S. Army and modern strata. Analysis of nails can provide critical information on architectural details, and presence and placement of structures across the entire site.

A *Nail Identification Guide* has already been prepared in a 3- ring binder, and is available for your use in the lab. This guide has illustrations of FOVA nail types, excerpts from Fort Vancouver archaeological reports that discuss nails, and other nail chronology and technology articles. Please read this guide before starting analysis.

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:** NAIL, WIRE
NAIL, CAST

**N**: Identify the number of objects or fragments.

**Length (cm):** Only complete nails are measured. For most round nails you will leave this field blank and record the penny size only. If a nail falls between penny sizes, measure its length with calipers and record that information here.

For incomplete nails, group the **lot** according to level of completeness. For example, all incomplete nails with heads (in this lot) would be counted together and recorded on one line. Nails with only shanks would be counted together and recorded on an additional line.

**Common Size (d):** Nails are commonly classified by their penny (d) weight, a system attributed to late 15$^{th}$ century England, when nails were sold by the hundred, e.g. 8d (pence) per 100 nails. This system probably originated with a weight scale per 100 nails, but soon switched to denote the length of a nail. The

chart in the preceding section summarizes the most common penny sizes. Record the penny size for complete nails.

**Completeness:** Record the level of completeness of each nail using the categories below:

| | |
|---|---|
| Complete | (C) |
| Head | (H) |
| Shank | (S) |
| Tip | (T) |

**Style:** Refer to the *Nail Identification Guide* for FOVA Type Numbers. Use the illustrations and descriptions from these typologies to assign a FOVA Type Number to complete nails. If the nail does not match a defined type, use "Unknown."

**Surface Modifications:** Please note any observed modifications to the artifact, such as:

| | |
|---|---|
| Bent Shaft | (BS) |
| Broken Tip | (BT) |
| Flattened | (F) |
| Missing Head | (MH) |
| Sheared | (S) |

**Notes:** **O**ther information that is not captured in the above fields goes in this field.

## References


Magedanz, Douglas (Compiler)
2000 *Nail Identification Guide: A Compilation of Articles Describing Nail Technologies, Terms, and Date Ranges Common to Fort Vancouver National Historic Site*. National Park Service, Fort Vancouver National Historic Site, Vancouver, Washington.

## Pipes

**Degree of Difficulty: MEDIUM**

Tobacco pipes imported from Great Britain were extremely common during the mid- 19th century, and were used both by employees at Fort Vancouver and soldiers at Vancouver Barracks. Most pipes found here are made from white clay, but occasionally other materials are found as well: argillite or other soft stone, and other colors of clay. Many were decorated in some fashion, or have a maker's mark on the body or spur of the pipe. Mouthpieces were occasionally coated with a wax, paint, or glaze to keep the user's lips from adhering to the porous pipe. Most often this is seen as a red or yellow residue. The most common type of pipe found here is a plain white clay pipe made by the Ford Stepney Company of Britain.

Before you begin analyzing pipes, familiarize yourself with the different manufacturers, varieties, and decorations. You should read Ross (1976), pages 804- 818, as well as looking through the relevant sections in Chance and Chance (1976) and Carley (1982) to familiarize yourself with the type numbers.

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

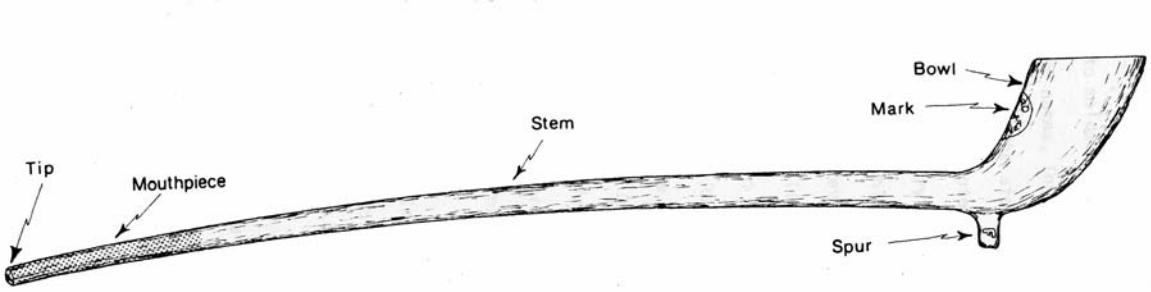
**Spec**: Fill in the assigned specimen number.

**Object**: PIPE, TOBACCO

**N**: Identify the number of objects or fragments.

**Type**: Describe the parts of the pipe that are present. For junctions, include all parts that are present, divided by slashes:

Bowl
Stem
Spur
Stem/Bowl/Spur



**Size (cm)**: Record the size of the artifact using the size target (see General Measurement section).

**Surface modifications**: Appropriate elements to include for surface modifications are:

Burned
Burnished
Incised
Potlidded

**Description**: Appropriate elements to include in the description are the material type and a brief description of any decoration. The vast majority of pipes are white clay.

Argillite
Glazes or other applications
Gray Clay
Maker's marks or numerals
Molded decorations such as, lines, bands, fluting, fronds, cockles, stars, or other designs
Red Clay
White Clay

**Notes**: For diagnostic pipes, include type number. Also add any other relevant observations, including modification/use wear.

## References


Carley, Caroline D.
1982 *HBC Kanaka Village/Vancouver Barracks 1977,* pp. 183- 190. Office of Public Archaeology, Institute for Environmental Studies, University of Washington, Seattle, Washington.

Chance, David H. and Jennifer V. Chance
1976 *Kanaka Village/Vancouver Barracks 1974*, pp. 169- 178. Office of Public Archaeology, Institute for Environmental Studies, University of Washington, Seattle, Washington.

Ross, Lester A.
1976 Fort Vancouver, 1829- 1860: A Historical Archeological Investigation of the Goods Imported and Manufactured by the Hudson's Bay Company, pp. 799- 818. Ms., National Park Service, Fort Vancouver National Historic Site, Vancouver, Washington.

Walker, Iain C.
1977 Clay Tobacco Pipes, with Particular Reference to the Bristol Industry, *History and Archaeology* 11A – 11D. Parks Canada, Ottawa, Ontario, Canada.

## Slate

**Degree of Difficulty: LOW**

Slate was used for pencils and writing tablets by the Hudson's Bay Company and U.S. Army, and as a roofing materials for U.S. Army buildings. The Hudson's Bay Company imported "slate pencils" and "slate pencils in reeds" (Ross 1976:1058). David and Jennifer Chance (1976) identified types of slate pencils in their work in the Fort Vancouver Village:

**Chance & Chance Type 1**: faceted in cross section with striations perpendicular to the cut faces (prior to ca. 1844)

**Chance & Chance Type 2:** faceted in cross section with striations diagonal to the cut faces (Hudson's Bay Company period)

**Chance & Chance Type 3:** round in cross section (U.S. Army ca. 1862- 1876)

The Hudson's Bay Company used small slate tablets to temporarily record information, such as tallies (Ross 1976: 1058). Some slate tablets have remnants of writing or gridlines and appear to have been used in schooling.

The U.S. Army also imported slate for roofing. For example, large quantities of slate roofing, some with fastener holes, were found in the southern portion of the parade ground at the location of ca. 1904- 1905 infantry and band barracks buildings (Langford and Wilson 2002: 45).

The laboratory analysis of slate objects is straightforward, but varies depending on the type of object.

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object:** PENCIL, SLATE
SLATE
SLATE, FLOORING/FIREPLACE
SLATE, ROOFING
SLATE, WRITING

**N**: Identify the number of objects or fragments. In the case of roofing slate there may be many fragmentary pieces that will defy counting. If this is the case, round to the nearest number, e.g. 50+ or 100+.

**Weight (g):** Record the weight of the lot in grams.

**Description:** For pencils, record the Chance & Chance type, the number of facets (if present), and record the length and diameter of the pencil in mm.

**Surface Modifications**: Appropriate elements to include for surface modifications are:

Fastener hole
Incised

## References


Chance, David H. and Jennifer V. Chance
1976 *Kanaka Village/Vancouver Barracks 1974*, p. 195. Office of Public Archaeology, Institute for Environmental Studies, University of Washington, Seattle, Washington.

Langford, Theresa and Douglas C. Wilson
2002 Archaeology of the U.S. Army Parade Ground: Fort Vancouver National Historic Site, p. 45. National Park Service, Fort Vancouver National Historic Site, Vancouver, Washington.

Ross, Lester A.
1976 Fort Vancouver, 1829- 1860: A Historical Archeological Investigation of the Goods Imported and Manufactured by the Hudson's Bay Company, pp. 1056- 1058. Ms., National Park Service, Fort Vancouver National Historic Site, Vancouver, Washington.

## Small Finds

**Degree of Difficulty: EASY TO MEDIUM**

Small finds are defined as materials that are found in connection with an excavation but may not be of great quantity. The following types of small finds may be found with excavations associated with the Vancouver National Historic Reserve.

**ASPHALT** – Bituminous residue from coal distillation and mixed with sand or limestone. Color ranges from brownish to jet- black. Used for roofing and road surfaces. **Weigh together as a lot only, do not use size target.**

**BISQUE** – Burnt or baked conglomerate of soils often high in clay content, resulting in a soft, chalky type material. Color ranges from orange to tan. **Weigh together as a lot only, do not use size target.**

**BOTANIC** – Unidentified organic materials. **Weigh together as a lot only, do not use size target.**

**CHALK** – Fine grain limestone, or calcium carbonate. Color ranges from white to gray or yellow. **Use size target and weigh by size category.**

**CIGARETTE BUTT** – Generally associated with previously excavated areas, e.g. Caywood excavation areas. May also be found in association with military presence. **Use size target and weigh by size category.**

**COMPOSITE ARTIFACT** – An artifact composed of mixed materials. Use this term if specific artifact type is unidentifiable. **Weigh together as a lot only, do not use size target.**

**CONCRETE/CEMENT** – Aggregate created with lime, sand, and gravel. Portland cement is sometimes found without sand and gravel aggregate. Usually associated with 20th century construction. **Weigh together as a lot only, do not use size target.**

**CORAL** – Raw and unprocessed coral. Color ranges from gray/white. Used for the making of mortar. **Use size target and weigh by size category.**

**FEATURE SAMPLE** –Indicate material composition in description. **Weigh together as a lot only, do not use size target.**

**FIBER** – This category consists of organic materials including protein, hair, wool, silk, flax, cotton, or cellulose, generally in strands. Fairly fragile. **Use size target and weigh by size category.**

**FOIL** – Inculdes aluminum foil and foil wrappers. Fairly fragile. **Weigh together as a lot only, do not use size target.**

**GLAZING PUTTY** – A pliable, yet rigid material placed in joints between window panes and sashes, made from various materials including lead, rubber, silicone, and wax. **Weigh together as a lot only, do not use size target.**

**LEATHER** – If object is identifiable, list component or object. Example: SHOE, HEEL, SOLE, etc. **Weigh together as a lot only, do not use size target.**

**MORTAR** – The Hudson's Bay Company imported coral from the Hawaiian Islands for use as mortar in brickwork. Coral mortar is easily identifiable by the white, powdery residue left behind. Other mortar is also found on the site. **Weigh together as a lot only, do not use size target.**

**PAINT** – May be collected as a chip or glob. Indicate color in description. **Weigh together as a lot only, do not use size target.**

**PAPER** – Fairly fragile. Do not attempt to separate pieces. **Use size target and weigh by size category.** If material is too large for size target, measure width and length in cm.

**PENCIL LEAD** – Gray graphite material. **Use size target, do not weigh**.

**PIGMENT** – May be a naturally occurring pigment, such as red ochre, or dried pigments of various colors that were imported to the site. **Weigh together as a lot only, do not use size target.**

**PLASTER** – Usually whitish, may have powdery residue. **Weigh together as a lot only, do not use size target.**

**PLASTIC/SYNTHETICS** – These late 19th and 20th century materials are variable in composition, color, and fabrication. The most common types that may be found include bakelite, celluloid and rubber. Use this term if specific artifact type is unidentifiable. **Use size target and weigh by size category.**

**SEED** – Indicate type if identifiable. **Use size target and weigh by size category.**

**SEDIMENT SAMPLE** – **Weigh together as a lot only, do not use size target.**

**SEWER TILE** – Sewer lines in the late 19th and early 20th century were made of a salt- glazed stoneware, typically thick with red or buff paste and brown, green, or orange glaze. Salt- glaze will appear pebbly or have an orange- peel- like texture. **Use size target and weigh by size category.** If material is too large for size target, measure the maximum dimension in cm.

**SHELL** –These are the exoskeletons of marine invertebrates, commonly harvested and eaten by people. **Weigh together as a lot only, do not use the size target.** If material is too large for size target, measure the maximum dimension in cm.

**TAR** - Black, sticky material used for coating floors to discourage insects. **Weigh together as a lot only, do not use size target.**

**TEXTILE** – Woven materials of various fibrous materials. **Use size target only, do not weigh**. If material is too large for size target, measure width and height in cm.

**TILE, ROOFING** (composite) – Tiles used for roofing, made with composite material. **Weigh together as a lot only, do not use size target.**

**WAX** – Candle or sealing wax. Color varies, although usually red, yellow, or white. **Weigh together as a lot only, do not use size target.**

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in the assigned lot number.

**Spec**: Fill in the assigned specimen number.

**Object**:
ASPHALT
BISQUE
BOTANIC
CHALK
CIGARETTE BUTT
CONCRETE
CEMENT
COMPOSITE ARTIFACT
CORAL
FEATURE SAMPLE
FIBER

FOIL
GLAZING PUTTY
LEATHER
MORTAR
MORTAR, CORAL
PAINT
PAPER
PENCIL LEAD
PIGMENT
PLASTER
PLASTIC/SYNTHETIC
SEED
SEDIMENT SAMPLE
SEWER TILE
SHELL
TAR
TEXTILE
TILE, ROOFING (composite)
WAX

**N**: Identify the number of objects or fragments.

**Size (mm) or Weight (g):** See individual descriptions for size or weight instructions.

**Description:** This field's entries will vary based upon what type of material is being analyzed.

**Notes:** Other information that is not captured in the above fields goes in this field.

## Wood and Charcoal

**Degree of Difficulty: LOW**

Wood and charcoal are found commonly at the Vancouver National Historic Reserve in the form of footings and other architectural features, and as individual objects within the site matrix. The analysis of wood and charcoal can provide critical information on how buildings were constructed, repaired, and renovated, and finally how they were abandoned, burnt, fell into ruin, and/or demolished. Wood and charcoal can also give clues on other human activities, including the use of wood for tools and furniture, as fuel for fireplaces and stoves, and other human uses. The study of wood and charcoal can also provide clues on what woods were available to the site's occupants and what the natural environment was like when the site was occupied.

The laboratory analysis of wood and charcoal is limited to collecting basic data on its quantity and condition. Analysis by specialists may be conducted to gather information on species, aspects of use, and other important variables.

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**Unit:** Fill in the assigned unit number, include operation if applicable.

**Level:** Fill in the assigned level number.

**Lot**: Fill in assigned lot number.

**Spec:** Fill in assigned specimen number.

**Object:** CHARCOAL
WOOD, OBJECT
WOOD, UNWORKED
WOOD, VENEER
WOOD, WORKED

Other object names should reflect a specific tool or object type, example: a post finial would be identified as "FINIAL, POST."

**N:** Identify the number of objects or fragments (if possible). In many cases there will be many fragmentary pieces that will defy counting. If this is the case, leave the N field blank and note "many fragments" in the Notes field.

**Weight (g):** Record the weight of the object or the entire lot of fragments.

**Description:** Leave this field blank unless it is a shaped piece of wood. Appropriate elements to include in wood and charcoal descriptions are:

Bark
Board
Branch
Charred
Hand- hewn
Saw- cut
Shaped piece
Twig

**Notes:** Other information that is not captured in the above fields goes in this field.

## Glossary

| | |
|---|---|
| **Argillite** | Very soft carbonaceous shale that is easily carved and can be polished to a high lustre. Only found in British Columbia. |
| **Burnished** | Polished by rubbing. |
| **Crazing** | Minute surface cracks in the glaze of a ceramic, caused by the glaze and paste cooling or heating at different rates. |
| **Cupreous** | Consisting at least partially of copper or resembling copper. |
| **Excavation Unit** | Large square shaped units excavated in 10 cm arbitrary levels or by natural sediment changes as they are encountered. Each unit is identified by a discrete number indicating the unit within the operation area. |
| **Feature** | Nonportable evidence of human technology, e.g. fire hearths, architectural elements, pits, and soil stains. |
| **Frog** | Rectangular depression molded into a brick, to reduce the overall weight and/or hold mortar. |
| **Incised** | Engraved, cut into. |
| **Level** | The basic vertical subdivision of an excavation unit, an arbitrary division used rather than or in conjunction with natural strata. |
| **Matrix** | The material that artifacts are surrounded by before being excavated. |
| **Operation** | An area of an excavation defined by the principle investigator and designed to test a specific theory. The Operation number is followed by the excavated unit (EU) number on labels. |
| **Paste** | The prepared mass of clay that is transformed into a material used in the construction of pottery. Paste can be described as fine, medium, or coarse grained. |
| **Pontil** | A metal rod attached to the bottom of a glass bottle during |

| | |
|---|---|
| | blowing, which holds the bottle while the neck and lip are finished. The rod is also sometimes used to form the "push- up" on the bottle base. The removal of the pontil leaves a mark or "scar" on the base. |
| **Potlid** | Circular flake of glaze and/or paste removed from a ceramic object by sudden heating. Leaves a small saucer- shaped depression in the surface of the vessel. |
| **Provenience** | In general, where an artifact came from. In the context of a specific site, it is the three- dimensional location of an artifact or feature within an archaeological site, measured by two horizontal dimensions, and a vertical elevation. |
| **Salt- glaze** | Glaze produced by introducing salt into a kiln during firing, characterised by a pitted "orange peel" surface. |
| **Shovel Test** | Square shaped units excavated in 10 cm (.32ft.) arbitrary levels to at least 50cm (1.64 ft) below surface or until two culturally sterile levels are encountered. Excavated by hand with shovels and trowels. These are small exploratory units designed to test a site's depth, stratigraphy, and resource ratio. |
| **Stratum** | More or less homogenous sediment, visually separable from other levels by a discrete change in the character of the sediment being deposited or a sharp break in deposition. |
| **Type** | A class of artifacts defined by a consistent clustering of attributes. |

## Common Abbreviations

### Archaeological Terms:

| | | |
|---|---|---|
| EU | = | Excavation Unit |
| Feat. or F | = | Feature |
| L | = | Level |
| Op. | = | Operation |
| Prov. | = | Provenience |
| ST | = | Shovel Test |
| STP | = | Shovel Test Probe |
| Str. | = | Stratum |

### Artifact Categories:

| | | |
|---|---|---|
| EW | = | Earthenware |
| Fe | = | Iron |
| IR | = | Ironstone |
| POR | = | Porcelain |
| SW | = | Stoneware |
| TP | = | Transferprint |
| VG | = | Vessel Glass |

### Measurement Units:

| | | |
|---|---|---|
| cm | = | Centimeter |
| g | = | Gram |
| mm | = | Millimeter |

## Who to go to for Help?

No matter how excellent the Lab Manual or how many references are available, there are always artifacts that defy identification, procedures that confuse, and mistakes that happen. Please feel free to approach a staff member and ask for help at any time.

For general lab assistance, questions on procedure, and identification of artifacts:

| | | |
|---|---|---|
| Doug Wilson | Archaeologist | Monday – Friday<br>(Tuesday- Saturday during field school) |
| Bob Cromwell | Archaeologist | Monday – Friday<br>(Tuesday- Saturday during field school) |
| Danielle Gembala | Archaeologist | Monday – Friday<br>(Tuesday- Saturday during field school) |
| Tessa Langford | Museum Technician | Monday, Tuesday, Friday, Saturday |
| Debra Semrau | Cultural Resources Specialist | Monday afternoon – Wednesday |

The following people can also help with artifact identification:

| | | |
|---|---|---|
| David Hansen | Curator | Monday – Friday |
| Doug Magedanz | Museum Technician | Monday – Friday |