

**George Massey Tunnel Replacement  
Project: Corridor Improvements Projects  
Archaeological Chance Find  
Management Plan**

**21 July 2021**

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>2</b>
<b>2</b>	<b>GENERAL GUIDELINES FOR MANAGING ARCHAEOLOGICAL AND HUMAN REMAINS CHANCE FINDS.....</b>	<b>2</b>
2.1	Artifacts and Archaeological Features.....	2
2.2	Human Remains.....	3
	<b>APPENDIX - A BASIC ARCHAEOLOGICAL SITE IDENTIFICATION INFORMATION.....</b>	<b>4</b>
	<b>APPENDIX - B ARCHAEOLOGY BRANCH POLICY ON HUMAN REMAINS.....</b>	<b>24</b>
	<b>APPENDIX - C CHANCE FIND RECORD FORM.....</b>	<b>27</b>

### LIST OF TABLES

Table 1:	Contact Names and Telephone Numbers.....	3
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## 1 INTRODUCTION

The Cowichan and Penelakut Tribes, Halalt, Katzie, Kwantlen, Lyackson, Semiahmoo, Shxw'ow'hamel, Snuneymuxw, Stz'uminus, Tsawwassen, and Ts'uubaa-asatx (Lake Cowichan) First Nations, xʷməθkʷəy̓əm (Musqueam Indian Band), People of the Rivers, Seabird Island Band, Stó:lō Tribal Council, Skwxwú7mesh Úxwumixw (Squamish Nation) and səliłwətał (Tsleil-Waututh Nation) are identified Indigenous groups within the George Massey Tunnel Replacement Project: Corridor Improvements Projects footprint (Project) and have called this place home since time immemorial. Indigenous people have a profound physical, emotional, and spiritual connection to their traditional territories and a strong desire to protect their cultural heritage.

The intent of this Chance Find Procedure is to provide the Ministry of Transportation and Infrastructure (Ministry) and its Contractors with general guidelines for the appropriate response to the discovery of known or suspected archaeological materials, including human remains, during Project activities. While Chance Find Procedures are valuable, they are not a substitute for prior assessment and evaluation of archaeological resources.

A detailed step-by-step Chance Find Procedure is provided below. Table 1 includes a list of key contacts and telephone numbers. Basic archaeological site identification criteria are provided in Appendix A. The Archaeology Branch Policy on Human Remains is provided in Appendix B. A chance find record form can be found in Appendix C.

## 2 GENERAL GUIDELINES FOR MANAGING ARCHAEOLOGICAL AND HUMAN REMAINS CHANCE FINDS

### 2.1 ARTIFACTS AND ARCHAEOLOGICAL FEATURES

**STEP 1:** If known or suspected archaeological materials or features (either intact or disturbed) are encountered, stop construction in the immediate vicinity.

**STEP 2:** Contact the Ministry Representative / Environmental Lead for further guidance:

Ministry Representative (w 604-\_\_\_\_\_, c \_\_\_\_\_)

Alternate (w 604-\_\_\_\_\_, c \_\_\_\_\_).

In the event that one of these individuals is unavailable, contact a relevant person in your department.

**STEP 3:** The Ministry Representative will advise on further action.

## 2.2 HUMAN REMAINS

Should known or suspected human remains be identified during project-related activities, the following responses are required.

**STEP 1:** Immediately stop construction in the vicinity of the remains. Do not move soil from the vicinity of the remains, including adjacent spoil material.

**STEP 2:** Contact the Ministry Representative for further guidance:

Ministry Representative (w 604-\_\_\_\_\_, c \_\_\_\_\_)

Alternate (w 604-\_\_\_\_\_, c \_\_\_\_\_).

In the event that one of these individuals is unavailable, contact a relevant person in your department.

**STEP 3:** Further Action by the Ministry Representative.

- The Ministry or the Ministry's archaeological consultant will notify the BC Archaeology Branch
- The BC Archaeology Branch, or the Ministry's archaeological consultant will contact the local policing authority and the Office of the Coroner, if appropriate, and
- An archaeologist or a designate who has specialized training in physical anthropology will visit the site as soon as possible with Indigenous group representatives invited to attend as well.
  - If it is determined that the remains are human and archaeological in nature, negotiations will follow to establish an appropriate procedure for handling the remains; and
  - If it is determined that the human remains are not archaeological in nature (i.e., forensic), the local policing authority and Office of the Coroner will provide guidance.

**Table 1: Contact Names and Telephone Numbers**

<b>Ministry Representatives</b>	
TBD (Representative)	Phone: TBD Cell: TBD
TBD (Alternate)	Phone: TBD Cell: TBD
<b>Archaeology Branch</b>	
Paula Thorogood, Manager	Phone: 250-953-3300
(Main)	Phone: 250-953-3334
<b>Police (non-emergency)</b>	
Delta Police	Phone: 604-946-4411
Richmond RCMP	Phone: 604-278-1212

## APPENDIX - A BASIC ARCHAEOLOGICAL SITE IDENTIFICATION INFORMATION

Typical criteria that may signal the presence of an archaeological site are described and illustrated in the sections below. This list is not exhaustive, but it includes the most common site indicators (features and artifact types) that may be encountered in the Project area.

### 1. Site Types

Archaeological sites described in this document are grouped into four general categories with defining features illustrated and explained.

#### 1.1 Site Type – Village/Camp

A number of well-documented Indigenous village and camp sites are found in Metro Vancouver. These sites are typically situated adjacent to the shore, especially at the confluence of creeks and the Fraser River or Pacific Ocean. Common site features are described below.

##### Feature – Shell Midden

Shell middens are cultural accumulations of shells, stratified in intricate white and grey layers, mixed with streaks of charcoal, ash, and other debris. Shell middens result from the successive deposition of food remains and general refuse. Shell middens were also commonly used as human burial sites. Look for: accumulations of layered, crushed, and whole shell, possibly mixed with charcoal, black soil, and other food remains (i.e., fish bone) (Photographs 1 and 2).



Photograph 1: Shell and ash layers in a midden site, Vancouver Island (© Golder Associates Ltd.).



Photograph 2: Typical exposure of shell-rich midden deposits, Vancouver Island. (© Andrew Mason).

### Feature – Dark Earth

Cultural accumulations of charcoal, ash, and other debris. Dark earth sites result from repeated burning events (e.g., vegetation clearing, food processing) and the successive deposition of food remains and general refuse. The BC Archaeology Branch refers to these as non-shell middens. Dark earth sites may contain ancestral human remains. Look for: dense accumulations of carbon-rich matrix, possibly mixed with fire-cracked rock, food remains (i.e., fish bones) and traces of shell (Photograph 3).



Photograph 3: Dark earth site, Vancouver Island. (© Andrew Mason).

### Feature – Post Mold

Post mold features (Photograph 4) are the archaeological signature of structural supports for dwellings, fish drying racks, etc., and represent soil-filled voids that are left when the wooden supports deteriorate with the passage of time. Features of this type are typically found in cut bank exposures (e.g., ditches, excavation walls) and are often associated with other archaeological features and objects (e.g., house floors, hearths, etc.).



Photograph 4 - Three post mold features extending into sterile gravel deposits exposed in an excavation wall profile, Fraser Valley (© Andrew Mason).



### Feature – Hearth / Steaming Pit

Hearth features (Photograph 5) are typically the remains of cooking fires, and consist of concentrations of charcoal, ash, and fire-reddened soil. These features may contain small bone fragments and heat-fractured stone (Photograph 6) or small, uniform-sized pebbles that were heated and used to boil water (Photograph 7). Hearth features found in large, circular pits— particularly on the beach—may represent steaming pits for processing foods (e.g., bulbs). Hearth and steaming pit features are typically found near village sites or camps. Look for: concentrations of charcoal and fractured pebbles with signs of having been burnt in a fire.



Photograph 5 – Cross section of a hearth feature composed of charcoal and ash with fire-cracked rock, Crescent Beach (© Golder Associates Ltd.).



Photograph 6 - Fire-cracked rock, Vancouver Island. Note the angular nature of the breakage pattern and evidence of exposure to fire (© Andrew Mason).



Photograph 7 - Pebbles, likely heated and used to boil water, recovered from hearth feature, Fraser Valley (© Andrew Mason).

## 1.2 Site Type – Isolated Find

Isolated artifact finds may be encountered anywhere in Metro Vancouver. These represent a wide range of artifact types that served a variety of functions. Some may have been left in place intentionally, then not returned to, and others may have been lost inadvertently or through use (e.g., a spear point that missed its target and could not be recovered). The most common objects will be made of stone and they are difficult to identify in Metro Vancouver due to ground cover and land development. This challenge is compounded by the fact that they are found in isolation.

This chance find procedure document includes a number of images of artifact types, several of which could be encountered as an “isolated find.” Photographs 8 and 9 illustrate artifact types that are often recognized by the public and brought to museums. Look for: formed objects of stone, bone, antler, or shell that do not appear natural or are composed of a raw material (e.g., stone) that is not common or native to Metro Vancouver.



Photograph 8 – Leaf-shaped projectile point recovered in the Fraser Canyon (© Golder Associates Ltd.).

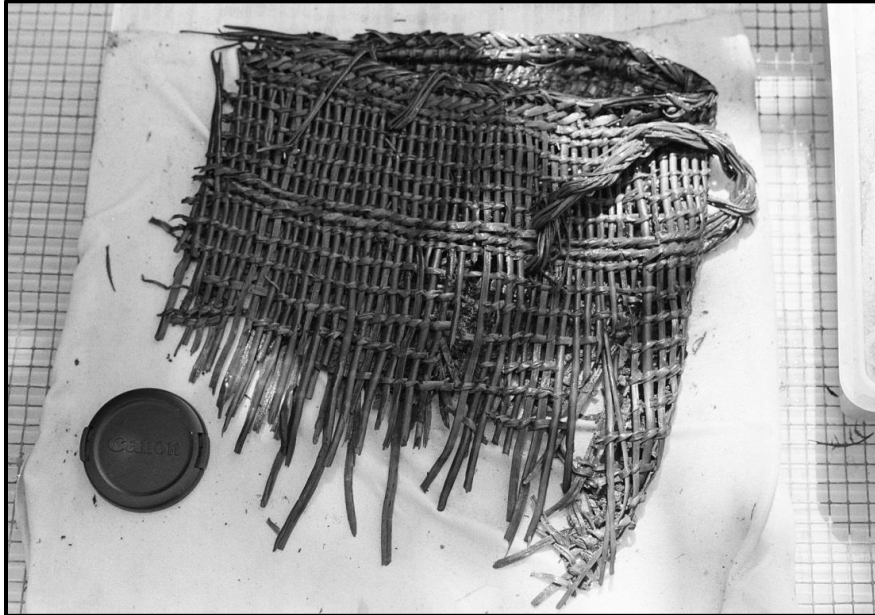


Photograph 9 - Nephrite (BC jade) adze blade from Vancouver Island (© Andrew Mason).

### 1.3 Site Type – Wet Site

Locations containing organic artifacts (i.e., wood, bark, or plant fibre objects) or food remains that are preserved due to their presence in an anaerobic (oxygen free) environment (e.g., wetlands, river silts). Intact wet site deposits have been identified in the Metro Vancouver area beneath as much as 3 m of fill. Look for: fragmentary baskets, rope, carved wood implements (e.g., digging sticks), and similar objects eroding from intertidal silts and/or clay deposits (Photographs 10 to 12).

#### Artifact – Basket



Photograph 10 - Waterlogged basket recovered from Delta (© Andrew Mason).

#### Artifact – Cordage



Photograph 11 - Waterlogged cordage (rope) fragment from the Fraser Valley (© Andrew Mason).

### Artifact – Stake



Photograph 12 - Waterlogged stake remnant recovered from the South Arm of the Fraser River in Delta (© Andrew Mason). Note the sharpened tip to the right of the scale bar. Roughly 15 cm of the stake was found protruding from river silts.

### 1.4 Site Type – Burial

Based on oral testimony and archaeological evidence, the treatment of deceased Indigenous community members has changed through time. It has included in-ground burial, typically in midden sites, cairn or mound burials, tree burials (e.g., Deadman’s Island, Stanley Park), and mortuary houses. Each of these practices leaves a different archaeological signature and the remains may be found “intact” (e.g., midden or cairn internment) or as isolated bone elements (e.g., blow down from tree burials or other disturbed burial features). Burial sites are extremely sensitive and need to be treated with care and respect. Look for: articulated or isolated bones or bone fragments, concentrations of natural cobbles or anomalous soil mounds of various sizes either with, or without, exposed cobbles. See Appendix B for the Archaeology Branch’s Policy concerning human remains.

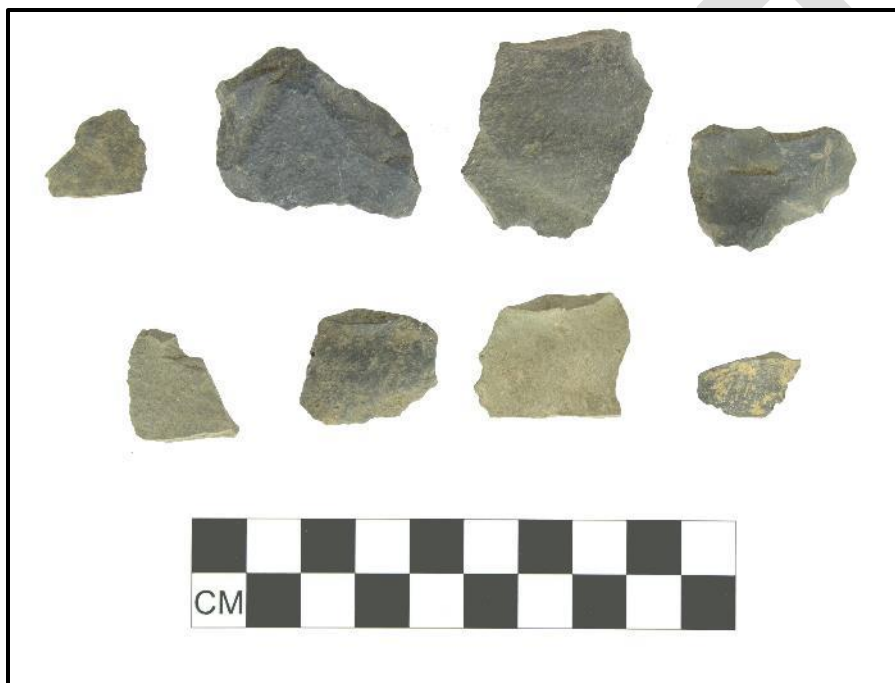
## 2. Artifacts

The sites described in the preceding sections may include a wide range of artifact types composed of a variety of raw materials. To assist Ministry personnel with the identification of artifacts that may be encountered during the course of projects, the following sections provide additional examples. While this list is not exhaustive, it provides a good overview of the types of objects that could be expected to be encountered, the various types of raw materials, and manufacturing processes.

## 2.1 Artifacts – Chipped Stone

The most common artifacts found in Metro Vancouver will be manufactured from stone and formed by chipping – the purposeful removal of flakes to form a desired object (e.g., projectile point) (Photographs 13 to 14). This manufacturing process results in the finished project (the “tool”) and a large amount of waste rock (flakes or debris). A large proportion (more than 95%) of stone tool sites are composed of these waste flakes. Look for: obviously formed chipped stone objects or stone flakes fashioned from fine-grained stone. Chipped stone tools and waste flakes will often exhibit a systematic or non-natural appearing flaking pattern on one or more surface. Flake edges may be extremely sharp.

### Artifact – Flakes



Photograph 13 - Unmodified “waste” flakes (© Golder Associates Ltd.).

### Artifact – Projectile Points



Photograph 14 - Projectile points and projectile point fragments (© Golder Associates Ltd.).

### 2.2 Artifacts – Ground Stone

Some stone artifacts were manufactured by grinding rather than chipping (Photographs 15 to 17). These objects are typically made from slate or a related material. Given the greater fragility of the raw material, ground stone artifacts are often fragmentary.



Photograph 15 - Ground slate knife fragment (© Golder Associates Ltd.).



Photograph 16 - Ground slate projectile points and projectile point fragments (© Golder Associates Ltd.).



Photograph 17 - Sandstone abrader fragment (i.e., whetstone) (© Golder Associates Ltd.).



### 2.3 Artifacts – Pecked Stone

Pecked stone artifacts are generally manufactured from a highly durable raw material and in some cases reflect a significant investment in labour to manufacture them (Photographs 18 to 22). Other examples, such as the hammerstone (Photograph 18) below, are expedient tools that would have been discarded after use. Look for: obvious modification/shaping through the application of a harder implement (e.g., hammerstone), pitting or pecking damage as illustrated in the hammerstone shown below (Photograph 18).

#### Artifact – Hammerstone



Photograph 18 - Hammerstone with pitting/pecking damage at both ends (© Andrew Mason).

**Artifact – Hand Maul**

Hand mauls, or stone hammers, are found in Metro Vancouver archaeological sites dating from the past 5,500 years and likely represent a coveted tool given the great many hours that would have been required to manufacture each piece. The form of hand mauls tend to vary through time and can range from a basic flat top to more elaborate phallic forms (Photograph 19). It is not uncommon to recover fragmentary hand mauls from sites.



Photograph 19 - Phallic form hand maul (© Golder Associates Ltd.)

**Artifact – Anchor**

Large stones with holes perforated to attach lines were used as anchors (Photograph 20), perhaps for fishing gear or watercraft.



Photograph 20 - Stone anchors (© Andrew Mason).

**Artifact – Net Weight**

Cobbles with their midsection pecked away to facilitate the attachment of a line were used as net weights (Photograph 21).



Photograph 21 - Pecked stone net weights (© Golder Associates Ltd.).

**Artifact – Bowl**

Pecked stone bowls are occasionally found in archaeological sites or as isolated finds. Similar to hand mauls, they represent a significant investment in labour to create and would likely have been handed down from person to person and generation to generation. Some examples are plain (Photograph 22), whereas others may be highly complex with figures pecked in relief.



Photograph 22 - Pecked stone bowl (© Andrew Mason).

## 2.4 Artifacts – Bone and Antler

Indigenous peoples in the Metro Vancouver area made extensive use of bone and antler for the manufacture of both expedient and curated objects (Photographs 23 to 28). Look for: bone and antler artifacts exhibiting obvious modification (e.g., cutting, shaping, incision).



Photograph 23 - Bone bipoints (© Golder Associates Ltd.).



Photograph 24 - Bone awls (© Golder Associates Ltd.).



Photograph 25 - Antler tine wedges (© Golder Associates Ltd.).



Photograph 26 - Barbed harpoon (© Golder Associates Ltd.).



Photograph 27 - Toggling harpoon valves (© Golder Associates Ltd.).



Photograph 28 - Incised bone decorative piece, likely representing a seal (© Golder Associates Ltd.).

## 2.5 Artifacts – Miscellaneous

Ochre, also known as hematite, is a naturally occurring pigment which has significant spiritual importance for First Nations in the Metro Vancouver area. Similar to human remains, the presence of ochre (Photograph 29) or ochre-covered artifacts (Photograph 30) is extremely sensitive and needs to be treated with extra care and respect and may require special handling by cultural specialists. Look for: nodules of reddish orange-brown pigment and objects that appear to have been painted (matte-finish).



Photograph 29 - Ochre nodules recovered from an Indigenous village site in the Fraser Valley (© Andrew Mason).



Photograph 30 - Natural pebbles coated in pigment, including ochre, recovered from an Indigenous village site in the Fraser Valley (© Andrew Mason).



## APPENDIX - B ARCHAEOLOGY BRANCH POLICY ON HUMAN REMAINS

# FOUND HUMAN REMAINS POLICY

Issued: September 22, 1999

*\*Please note, this policy is currently under review\**

### **Purpose**

The purpose of this directive on found human remains is to provide guidelines to Archaeology Branch staff, archaeologists, other agencies and the public as to branch procedures for handling human remains that may be protected under the Heritage Conservation Act (1996, RSBC, Chap. 187), and to facilitate the respectful treatment of these remains.

### **Mandate**

Pursuant to section 13(2)(b) of the *Heritage Conservation Act*, a permit is required under section 12 or 14 before a person can undertake any actions affecting a burial place of historical or archaeological value, human remains or associated heritage objects.

### **Authority**

The Director of the Archaeology Branch and the Manager, Permitting and Assessment Section, have been authorized to exercise the powers of the Minister to issue permits under sections 12(2) and 14(2), as well as ministerial orders under section 14(4) where necessary for emergency conservation purposes.

### **Policy statement**

Upon notification of the discovery of human remains that are not of forensic concern, the Archaeology Branch will take steps to facilitate the respectful handling and disposition of those remains within the limits of existing funds and program priorities.

### **Procedures**

The following procedures will normally apply in cases where human remains are discovered fortuitously through various land altering activities such as house renovations, road construction or natural erosion; or during archaeological studies conducted under a *Heritage Conservation Act* permit:

## 1. Fortuitous Discoveries

In cases where the Branch has been notified that human remains have been discovered by chance, the following procedures should normally apply:

- the Coroner's Office and local policing authority should be notified as soon as possible.
- the Coroner's Office should determine whether the matter is of contemporary forensic concern. The branch may provide information and advice that may assist in this determination.
- if the Coroner's Office determines the reported remains are not of forensic concern, the branch will attempt to facilitate disposition of the remains.
- if a cultural affiliation for the remains can be reasonably determined, the branch will attempt to contact an organization representing that cultural group.
- if remains are determined to be of aboriginal ancestry, the branch will attempt to contact the relevant First Nation(s).
- generally, if remains are still interred and are under no immediate threat of further disturbance, they will not be excavated or removed.
- if the remains have been partially or completely removed, the branch will facilitate disposition.
- if removal of the remains is determined to be appropriate, they will be removed under authority of a permit issued pursuant to section 12 or 14, or an order under section 14 of the Heritage Conservation Act, respecting the expressed wishes of the cultural group(s) represented to the extent this may be known or feasible.
- if circumstances warrant, the branch may arrange for a qualified physical anthropologist or an archaeologist with training in human osteology to provide an assessment of the reported remains in order to implement appropriate conservation measures.
- analysis should be limited to basic recording and in-field observations until consultation between the branch and appropriate cultural group(s) has been concluded.

## 2. Permitted Archaeological Projects

In cases where human remains are encountered in the course of a permitted project, the Archaeology Branch should be contacted as soon as possible.

- the remains are to be handled in accordance with the methods specified in the permit, respecting the expressed wishes of the cultural group(s) represented, to the extent that these may be known or feasible.
- if the permit does not specify how remains are to be handled and if the cultural affiliation of the remains can be reasonably determined, the field director or permit-holder should attempt to contact an organization representing that group. The permit-holder or field director should advise the branch of the organization contacted, and any wishes expressed by that organization.
- the branch, in consultation with the appropriate cultural group(s), will determine disposition of the remains.
- analysis should be limited to basic recording and in-field observations, until consultation between the branch and appropriate cultural group(s) has been concluded.

## Reference

BC Archaeology Branch 2021. Found Human Remains Policy. Accessed 12 July 2021.  
<https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/archaeology/bulletins-policies>.

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**APPENDIX - C CHANCE FIND RECORD FORM**

Recorder's Name: \_\_\_\_\_ Affiliation: \_\_\_\_\_

Contact Number: \_\_\_\_\_ Date/Time of Discovery: \_\_\_\_\_

Location of chance find (general project area, find location (e.g., surface or buried) and description of surrounding area, UTM coordinates):

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Activity that took place during chance find:

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Description of chance find (size, any notable features, material (e.g., wood, bone, stone), single or multiple items):

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Photographs taken:      Y       N

If yes, list photographs including contact information of person in possession of photographs:

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Has the area been secured:      Y       N

If yes, what measures have been taken:

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List the names and dates of the personnel notified of the discovery:

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**ADDITIONAL NOTES** (may include a sketch map):

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