

CEMVS-PD-C (1105)

29 December 1997

MEMORANDUM FOR RECORD

SUBJECT: Site Visit to Review Walla Walla District Collections Discovered at Kennewick, Washington

1. The U.S. Army Corps of Engineers Mandatory Center of Expertise for the Curation and Management of Archaeological Collections (MCX-CMAC), St. Louis District, at the direction of MG Furhman, rehoused and inventoried the Kennewick remains in early November 1997. At that time, it was agreed that the team would revisit the collections in December 1997 to ascertain their condition and perform any rehousing or other curation efforts deemed necessary. This memorandum details the results of the inspection.

2. The curation team, which was composed of Ms. Teresa Militelio and me, arrived in Pasco, Washington, at 1630 on 14 December 1997.

3. On 15 December, we drove to the Battelle complex at 0800. We were met by Ms. Mona Wright, who took us to the badging station and then to the building and room containing the Kennewick remains. As during all other visits, Ms. Wright remained in the curation room while we worked. We signed in and proceeded to prepare all the working surfaces in the curation room with ethafoam padding.

a. The remains were removed from the locked Delta Design museum storage cabinet and the Rubbermaid Action Packer housing unit. All housing units within the Action Packer were then examined by the team to determine the humidity levels. A review of the humidity indicator cards in each unit revealed that all the remains have been maintained at a stable, acceptable humidity level.

b. A collection of remains recovered in September 1997 near the location of the original discovery had not completely dried during our November visit; therefore, we were unable to rehouse these materials. At that time, we placed the remains in an open archival container within the Delta cabinet to allow them to

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continue to dry, and we agreed to return in December to rehouse them. We inspected the bones on 15 December and agreed that they were stable and ready to be rehoused.

c. Ms. Militello spent the remainder of the day carefully inspecting each container and each individual bag within the containers to ascertain the condition of the remains. In each container she inserted (1) additional archival polyester padding and (2) a packet of silica gel, which functions as a desiccant. In addition, ethafoam support forms were constructed for the mandible and maxilla.

d. On 12 December, Ms. Linda Kirts, CENWW-OC, requested that I examine a collection of human remains that had been recovered along the Columbia River on 24 August 1996. I reviewed the collection on 15 December and found that the remains were tightly packed in an acidic cardboard box. The box was stored in the locked Spacesaver shelving in the Battelle curation room. None of the remains were properly housed. The skeletal elements were not stored in any type of protective housing. I determined that given the small amount of time we had available I would generally describe the remains, house them in 4-mil polyethylene bags, label the bags with basic identification tags, and rehouse the remains with appropriate padding to ensure their care. I spent the majority of 15 December accomplishing this task. Cedar sprigs, which were placed in the original box, were carefully removed and placed in a 4-mil bag. The bag was then placed within the new archival container. It is recommended that these collections be inventoried by a professional physical anthropologist. A more detailed description of this endeavor and associated recommendations are contained in Enclosure 1.

4. On 16 December, we arrived at Battelle at 0900 and were escorted to the curation room by Ms. Wright. Ms. Militello continued her detailed inspection of all the human remains. They were all stable and in good condition, as we had left them in early November. In each container she placed an acid-free copy of the catalog numbers of the skeletal elements that belong inside the container. The catalog numbers also were written in permanent marker on the lid of each container.

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a. I spent the morning and most of the afternoon writing up my notes for the project as well as writing up a general description of the 24 August 1996 remains.

b. During the afternoon, Ms. Militello began the final packing of the remains. She also began creating a series of linear packing buffers to pad the interior containers to ensure that they would have maximum protection.

c. Additionally, I determined that a new curation collections storage container should be established to house any remains that are found during current work in the area of the original discovery of human remains. I constructed and labeled a new archival container for this purpose.

5. On 17 December we arrived at Battelle at 0800. We were escorted by Ms. Wright to the curation room where we continued our work. Ms. Militello continued to construct padding elements for the Action Packer so that the interior containers would not shift. She also developed a container diagram that outlines how to efficiently repack the Action Packer for the safety of the remains.

a. I worked on a draft of this memorandum for record and rehoused the collection cataloged as CENWW.97A.KENNEWICK, which was recovered in September 1996, as well as collection CENWW.97B.KENNEWICK gathered in September 1997.

b. We finished our work by addressing the archived associated records. In November, we established an archives that is housed in the Delta museum storage cabinet. It contains all available documents that pertain to the collection of human remains. During this trip we photocopied all the documents on to acid-free paper (including the major archive components), which include (1) the skeletal inventory of the remains and other catalog information regarding the collections, (2) MCX-CMAC memoranda regarding work completed on the collections, and (3) administrative documents concerning the collections from the Walla Walla District and Battelle. The documents were filed in labeled acid-free folders and placed in an archival document box, which is stored near the Action Packer.

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6. The human skeletal remains discovered in July 1996 at Kennewick, Washington, have been completely cataloged and rehoused. Archives associated with our curation work have been established. The archives and all of the collections of remains are housed in the secured Delta museum storage cabinet.
7. Our recommendations for the collections are as follows.
 - a. The collections described in 3(d) should be inventoried and cataloged by a professional physical anthropologist.
 - b. All the collections should receive an inspection every four-to-six months to ensure that they are stable under the current conditions.
 - c. These collections can remain as they currently are housed for at least two years.

Encl

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25 November 1997

MEMORANDUM FOR RECORD

SUBJECT: Site Visit to Inventory, Catalog and Rehouse Kennewick Remains

1. Given orders from MG Fuhrman to rehouse and inventory the human skeletal remains that were found in July 1996 in Kennewick, Washington, MCX-CMAC staff Dr. Michael K. Trimble, Ms. Teresa Militello, and Ms. Rhonda Lueck, departed St. Louis at 0845 on Monday, 3 November 1997. After several travel delays, we arrived in Pasco, Washington, at approximately 1400 hours.

2. 3 November 1997

a. After arriving in Pasco, we proceeded directly to the Battelle Laboratories and entered the complex at approximately 1500 hours. We were met by Ms. Mona Wright of Battelle who accompanied us to the Sigma 3 Building where we obtained security badges. She then escorted us to the Sigma 5 Building and to Room 2209 on the second floor, which the Battelle staff refer to as the "curation room."

b. From 1500-1700 hours we worked with Ms. Wright and Mr. Brian Optiz, also from Battelle, to reconfigure the room so that there would be an ample area in which to work. We moved one desk and two tables to create a more efficient work flow. We cleaned the surfaces of the tables and desk and vacuumed the floor.

c. The working surfaces were covered with one-quarter inch thick Ethafoam polyethylene padding and Volara polyethylene padding. These materials are common support and cushioning surfaces used in museums and laboratories to ensure that fragile materials have a protected surface on which to lie. The Ethafoam and Volara were fastened to the desk and table surfaces with Tyvek tape so that they would not shift during work.

d. A variety of containers had been purchased to house the remains, including a 44-gallon Rubbermaid Action Packer storage crate. The container and necessary equipment had arrived from St. Louis on Saturday, 1 November. The Action Packer was purchased to house a cranium support form and several smaller Rubbermaid containers, which together will form the primary

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container for the remaining human skeletal elements. These containers were unpacked and thoroughly cleaned. At 1700 hours we departed with the Battelle staff for the day.

e. Later that evening, we trimmed the edges and lightly ironed the supplies of washed 100% unbleached cotton muslin that were brought to line the Action Packer container. This concluded our work for the day.

3. 4 November 1997

a. As agreed to with the Battelle staff, we arrived at work at 0830 on 4 November 1997. We called Ms. Wright on the exterior building phone, and she escorted us in to the building where we continued our work preparation.

(1) One table on the south side of the room was prepared for conservation work.

(2) The north side of the room was set up in an "L" configuration with a table and desk. This area was used to lay out and inventory the remains.

(3) A map case, located in the center part of the room, approached waist level. Its surface was used to store the supplies when the collections were inventoried and rehoused.

(4) Additionally, a Delta Design Ltd. museum storage cabinet to be used as an overall housing case for the Action Packer was delivered. Our office recommended purchasing a Delta cabinet because they are designed specifically for museum use. The ordered cabinet is constructed of steel, treated with a solvent-free, non-reactive baked polyester powder coating, and equipped with silicone gaskets to create a firm seal when the doors are closed. The double panel doors offer increased fire resistance, and are furnished with locking handles. Filter vents are installed in the inside face of each door, which allow the circulation of fresh air within the cabinet. This case was placed on the north side of the room.

b. Following this work, one-eighth inch thick Volara was cut and inserted into the bottom of each small Rubbermaid storage

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container. The Volara is an excellent housing material and will ensure stability and extra padding for all the housed remains.

c. At 1030 hours, Ms. Wright unlocked the Spacesaver shelving, and we removed the box containing the remains. Our intent was to lay out the remains in correct anatomical position to facilitate the inventory and rehousing process. During this phase of work, the remains were removed from their plastic zip-lock bags only when it was necessary to identify their anatomical position. We started with the long bones as they are easiest to order and side. Using the available space, we laid out the majority of the bags on the padded table and began our preliminary work. Attempts were made to match fragmented skeletal elements, if not grouped already, in order to produce a general inventory. Some segregated fragments were removed from their original bag and reunited with their comparable skeletal element. Any transfers of elements between bags were noted. At 1230 hours we stopped work to have lunch in Ms. Wright's office on the first floor.

d. Ms. Madeline Fang, who is acting as a consultant for the Department of Justice, arrived at approximately 1300 hours. Ms. Linda Kirts, Chief Council for the Walla Walla District, and Mr. John Leier, Walla Walla District archaeologist, had arrived 10 minutes before Ms. Fang.

e. At approximately 1345 hours, we returned to the curation room on the second floor, and provided Ms. Fang an overview of our procedures to date. We discussed a host of strategies for cataloging and storage. Ms. Fang was particularly interested in storage, replacement of original bags with new bags, and the use of Ethafoam polyethylene foam to reduce possible damage to bone. I concurred with most of her concerns. I outlined our plan of action, which was to (1) identify all the skeletal elements, (2) side those elements that could be sided, (3) rebag, inventory, and catalog the skeletal remains, (4) rehouse the remains within the Rubbermaid storage containers, (5) house these containers in the Rubbermaid Action Packer, and (6) house the Action Packer within the Delta cabinet.

f. From 1400 to 1630, Ms. Fang and Ms. Militello worked on completing the support form for the cranium that was started in

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St. Louis. The exterior of the form is constructed of two layers of two-inch thick Ethafoam polyethylene foam planks, one-quarter inch thick Volara polyethylene foam, and acid-free two-ply corrugated board. The interior of the form, which cradles the cranium, is lined with 100% polyester felt, 100% polyester batting, and covered with washed 100% unbleached cotton muslin. It will provide a long-term professional housing for the cranium. Ms. Lueck continued working on a general inventory of the human remains and siding of the elements.

g. At days end, we had completed a preliminary inventory, sided most elements and were in a position to begin the formal inventory on Wednesday. The remains were placed in acid-free trays for temporary storage and returned to the Spacesaver storage unit. Ms. Wright locked the storage unit and we departed.

4. 5 November 1997

a. We arrived at Battelle at 0805 and met Ms. Fang. We called Ms. Wright on the exterior building phone, and she escorted us into the building and to the curation room. Ms. Wright removed the human remains from the locked Spacesaver shelving unit, and Ms. Lueck began recording the formal human skeletal inventory.

b. Information regarding the skeletal elements that were present and their level of completeness was recorded on (1) an "Inventory Recording Form For Complete Skeletons, Chapter 2: Attachment 1" and the "Dental Inventory Visual Recording Form: Permanent Dentition, Chapter 5: Attachment 14a" found in the 1994 publication of *Standards For Data Collection From Human Skeletal Remains: Proceeding of a Seminar at The Field Museum of Natural History Organized by Jonathan Haas*, as well as, (2) on the "Skeletal Inventory" section of the package of forms dated "5/89" that have been used by the Smithsonian Institution to document skeletal remains.

c. Two major concerns were raised by our team and Ms. Fang over the condition of several skeletal elements. First, the first metacarpal of a left hand and another unidentified bone fragment collected on 4 November 1997 near the site of the

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original remains exhibit mold on a portion of the surface. Mold grew because the bone was not properly vented and dried prior to storage in a plastic bag. Ms. Fang suggested two forms of treatment: (1) vent the bag over several days, and store it in a separate container from the rest of the remains so there is no contamination, or (2) apply a 70% alcohol solution to the bone to remove the mold. I did not favor the second treatment as it would overly dry the bone and potentially produce contamination. Ms. Amoret Bunn, an expert with fungi, bacteria, and algae from Battelle, was summoned. A lengthy discussion ensued, and a general consensus was reached that presently no alcohol treatment would occur. Therefore, the bag was left opened to promote drying of the bones, which proved very successful.

d. A second concern of our team and Ms. Fang was that there is dried, green algae present on several bones, including the talus, ulnae, femurs, and os coxae. After consulting Mr. Dennis Dauble of Battelle, whose expertise is in algae, we concurred that if the algae were dry, it was not a curation or conservation issue.

e. At 1330 hours, Ms. Robin Michael and Mr. Tim Simmons, attorneys with the Department of Justice, and Mr. James Baker, an attorney from the Walla Walla District, arrived. We outlined the progress to date and answered their questions regarding the work. At this time it was determined that the keys to (1) the Master Lock padlock purchased for the Action Packer and (2) the Delta cabinet would be entrusted to Ms. Kirts and to Dr. Trimble.

f. Ms. Militello and Ms. Fang continued to work on the support form for the cranium. The exterior Ethafoam planks were shaped and the interior of the form was completed. Ms. Fang hand-sewed the muslin to cover the bottom of the form where the cranium would rest. Work continued through the rest of the day, and we departed at 1830 hours.

5. 6 November 1997

a. We arrived at 0730 hours and were greeted by Ms. Wright. She escorted us to the curation room. We immediately continued further inventorying and began cataloging the remains. We developed a unique cataloging system to track each individual

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skeletal element, which is comprised of a series of codes. The first section of the code is "CENWW", which refers to the U.S. Army Engineer District, Walla Walla. The second segment of code is "97" referring to the year the collection was cataloged, in this case 1997. The third part of the code pertains to the anatomical side of the body that each skeletal element belongs, such as an "R" for the right side or a "U" for unpaired. The fourth code is a general skeletal element code taken in anatomical order as presented in the 1987 publication *Human Osteology* by Dr. William Bass. Therefore, the fourth code begins with 1=cranium, 2=maxilla, 3=mandible, etc. The final section of the code is an indicator of the number of elements or element fragments. This is indicated with lower case letters of the alphabet. If a code appears as "2a-c", this would mean that there are three maxilla fragments. Hence, the complete catalog number referring to the left femur that is broken in four fragments would be "CENWW.97.L.18a-d".

b. Two additional bags containing bone were located in the box with the original human skeletal remains. One bag was paper, the other was plastic. Each of these bags was collected after the work by Dr. Jim Chatters, and we considered each a collection. They were cataloged with unique numbers using the same codes as discussed above. First, the September 1996 collection received the catalog number "CENWW.97A...". "CENWW.97B..." was given to the second collection gathered in September 1997. Ms. Lueck and Dr. Trimble believe that the first metacarpal found in September 1996 and the fifth cervical vertebra that was found in September 1997 likely belong with the Kennewick individual given similarities in the size and shape of the elements.

c. As part of the housing process, catalog tags were filled out for each skeletal element and/or fragments. The catalog tags are made of acid-free paper with string and labeled with 2H archival pencil lead. On the top of each tag we recorded the unique catalog number, and the name of each element was recorded on the bottom. Additionally, I determined that a new zip-lock plastic bag, of the proper size, would be selected for each element. Because the remains were to be transferred to new bags, we recorded the original bag number for each element on the back