

# STATE OF OREGON ARCHAEOLOGICAL REPORT COVER PAGE

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(Updated 1/19/2016)

SHPO Case#

Author(s):

Title:

Year:

District/Contractor:

Agency/Client:

Agency Report No.:

County (ies):

Quad(s):

Project Acres:

Survey Acres:

Township:

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Use additional report cover sheets as necessary.

Archaeological Permit

Project Activity:

Number(s):

Were archaeological materials collected from excavation?

Curation Location:

Accession #:

Field note location:

Sites Found?

Prehistoric #:

Historic #:

Multicomponent #:

Historic Resources Found?

Historic Resource #:

Isolates Found?

Isolate #:

TCP(s)/HPRCSIT(s) Found?

TCP/HPRCSIT #:

NRHP:

Temporary site #: SHPO Trinomial #: Criterion A:

Criterion B:

Criterion C:

Criterion D:

Use additional report cover sheets as necessary.

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# Mosier Derailment Emergency Response, Cultural Resources Monitoring Report

*Prepared for*

U.S. Environmental Protection Agency

August 2016



CH2M HILL Engineers, Inc.  
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Portland, OR 97201



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# Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
AOE	area of effect(s)
CCS	cryptocrystalline silicate
CH2M	CH2M HILL Engineers, Inc.
CRP	<i>UPRR Mosier Derailment Cultural Response Plan</i>
CTWS	Confederated Tribes of the Warm Springs
EPA	U.S. Environmental Protection Agency
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCRH	Historic Columbia River Highway
NHL	National Historic Landmark
NRHP	National Register of Historic Places
USFS	U.S. Forest Service
WWTP	wastewater treatment plant

# Introduction

This cultural resources report has been prepared to comply with provisions of the *UPRR Mosier Derailment Cultural Response Plan* (CRP; U.S. Forest Service [USFS] and CH2M HILL Engineers, Inc. [CH2M], 2016; see Appendix A) in accordance with the *Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan* (Advisory Council on Historic Preservation [ACHP], 2002). The CRP requires the preparation of this report to document the “observations including volumes, extent, and types of materials removed from the Area of Effect” (AOE; USFS and CH2M, 2016). The monitoring discussed in this report occurred from June 4 to June 22, 2016. Appendixes are provided as follows:

- Appendix A – UPRR Mosier Derailment Cultural Response Plan
- Appendix B – Figures
- Appendix C – Photographs
- Appendix D – Daily Monitoring Logs
- Appendix E – Site Forms and Determinations of Eligibility
- Appendix F – Finding of Effect for Historic Columbia River Highway

## 1.1 Regulatory Framework

The U.S. Environmental Protection Agency (EPA) was the lead federal agency participating in the Incident Management Team for response to the train derailment in Mosier, Oregon, as an Emergency Incident under the National Incident Management System (Federal Emergency Management Agency, 2016). The federal nexus of the response requires compliance with Section 106 of the National Historic Preservation Act of 1966. Federal agencies are required to consider the effects of “federal or federally assisted undertakings” for historic properties that are listed in or eligible for inclusion in the National Register of Historic Places (NRHP).

According to 36 *Code of Federal Regulations* 800.13(e) of the National Historic Preservation Act of 1966, an approved programmatic agreement satisfies Section 106 responsibilities for all individual undertakings. The ACHP developed the *Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan* (ACHP, 2002). The EPA was a signatory on this programmatic agreement, which provides guidance for the Federal On-Scene Coordinator to make informed decisions that take historic properties into consideration during an emergency response.

The EPA implemented an agreement with USFS to contract the Columbia River Gorge Scenic Area Archaeologist, Marge Dryden, as the designated EPA archaeologist. In this role, Ms. Dryden coordinated communication with the Oregon State Historic Officer and area tribes. Ms. Dryden, in coordination with CH2M, prepared the CRP that identified responsibility for monitoring removal activities, surveying the burned area, recording previously undocumented sites and isolates, and making formal determinations of eligibility to determine if historic properties were affected as a result of the derailment or subsequent removal activities (see Appendix A).

## 1.2 Area of Effects

The AOE is defined as any area where the derailment or subsequent project activities have the potential to affect cultural resources (see Appendix B, Figures 1 and 2). The areas that comprise the AOE are those where ground disturbance occurred or heavy equipment was used (but where no subsurface disturbance occurred). Appendix C contains photographs of these locations.

### 1.2.1 Derailment Excavation Area

This is the area where the cars derailed, and soil beneath the damaged tracks and cars was excavated. The excavation within this area was irregular in shape. The area was approximately 300 feet long from east to west and 120 feet wide from north to south. Excavation occurred from the surface to approximately 2 to 4 feet below ground surface. At one location near the center of the removal activity, the excavation extended approximately 20 feet below grade. Additionally, two extraction wells were installed in the excavation footprint to a depth of 20 feet.

### 1.2.2 Wastewater Treatment Plant Influent Wastewater Conveyance Pipeline

The influent pipeline that conveys wastewater to the wastewater treatment plant (WWTP) was removed and replaced as part of the derailment response. The pipeline was excavated throughout the excavation area described above and under Rock Creek Road to a manway junction just east of the overpass. A trench approximately 3 to 5 feet deep was excavated to remove the pipe. A portion of the Historic Columbia River Highway (HCRH) was replaced during replacement of the outfall pipeline. A trench was excavated through a portion of Rock Creek Road to replace the influent pipeline between the city of Mosier and the WWTP. Rock Creek Road was formerly a section of Highway 30, which is a part of the NRHP-listed HCRH District. In compliance with Section VI(D) of the *Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan*, the emergency response was evaluated to determine for effects on the HCRH (ACHP, 2002).

### 1.2.3 Hillside Area

The fire that occurred after the cars derailed burned an area of hillside between Rock Creek Road (formerly known as Highway 30) and an unnamed private road to the south. The ground surface was charred, but no ground disturbance occurred from fire suppression activities or other onsite removal activities.

### 1.2.4 Groundwater Monitoring Well Area

Four groundwater monitoring wells (each well bore approximately 4 inches in diameter) were installed north of the mainline track near the derailment area.

### 1.2.5 Shoreline Area

The WWTP effluent outfall pipeline extends north from the WWTP to the Columbia River, adjacent to or within the shoreline parking lot. The parking lot area was used for equipment staging, groundwater monitoring, well drilling and installation, and access ramp construction. Four small potholes were excavated near the northernmost manhole of the WWTP outfall pipeline, located at the shoreline area approximately 50 feet from the southern bank of Columbia River. The potholes were excavated using a vacuum truck. The dimensions of each pothole measured approximately 3 feet long by 3 feet wide by 5 feet deep.

### 1.2.6 Equipment Staging Area

The area north of the Mosier Fruit Company building and east of the US-30 overpass was used for the staging of fill and heavy equipment used to transport the rail cars offsite. No excavation occurred in this area.

# Resource Investigations near the Area of Effects

The AOE has been surveyed extensively for cultural resources on at least five occasions. In 2001, Archaeological Investigations Northwest, Inc., conducted a pedestrian survey over the entirety of the AOE, and no cultural resources were observed (Baker et al., 2001).

In 2005, another pedestrian survey was conducted over the northern portion of the AOE. The survey included 11 shovel tests near the toe of the slope for the Interstate 84 interchange near the monitoring well area. All shovel tests were negative, and no cultural resources were identified during the 2005 pedestrian survey (Cabebe and Winterhoff, 2005).

The most recent investigations were conducted from 2013 to 2015 by CH2M. No cultural resources were identified during those pedestrian surveys, as documented in the following:

- *Archaeological Research Design for the Union Pacific Railroad Mosier Second Mainline Track Project* (CH2M HILL, 2014a).
- *Cultural Resources Survey of the Union Pacific Railroad Second Mainline Track, Wasco County, Oregon* (CH2M HILL, 2014b).
- *Addendum to Cultural Resources Survey of Union Pacific Railroad Second Mainline Track, Wasco County, Oregon* (CH2M, 2015).

The surveys identified no archaeological resources within the AOE. The nearest recorded archaeological sites are 35WS581, a historic railroad siding, and 35WS242, the Mosier Mounds. Both sites are over 300 meters from the AOE. The HCRH crosses through the AOE.

# Historical Maps

Historical maps from the 1930s to the 1950s were used to increase understanding of the prior alterations to the landscape within the AOE. The earliest image, dating to 1930, shows the Columbia River level in the project area before construction of the Bonneville Dam in 1938 (see Appendix B, Figure 3). This figure shows that a broad alluvial fan existed at the confluence with the Columbia River. Much of the AOE appears to be natural. The only human-made structures easily discernable on the aerial imagery are Highway 30 and the railroad line. The AOE was overlaid on a 1936 U.S. Army Corps of Engineers plat map (see Appendix B, Figure 4). After construction of the dam and subsequent flooding, approximately 500 feet of shoreline was inundated. The plat map notes that the AOE largely consisted of scattered trees and brush. Notably, a structure labeled “crushing plant” is evident on the plat map adjacent on the southern side to Highway 30 (currently Rock Creek Road) in the southern portion of the AOE. Aerial imagery dating to 1955 shows the landscape after the construction of Interstate 84 and the construction of the interchange and overpass that crosses the AOE (see Appendix B, Figure 5). As evident on the 1955 aerial imagery, much of the AOE is inundated north of the railroad tracks.

# Methods

## 4.1 Cultural Resource Plan

The CRP was used to guide cultural resource monitoring activities during removal activities. The CRP stipulated that monitoring would be conducted after excavation but prior to backfill to comply with worker safety requirements. By the time removal was underway, the EPA and Oregon Department of Environmental Quality personnel concurred that cultural monitors, with appropriate safety training, could observe the ongoing excavation rather than wait until excavation had been completed.

## 4.2 Coordination with Area Tribes

Representatives from the Yakima Nation and other area tribes were invited to participate in monitoring activities. Prior to excavation, onsite cultural and environmental tribal monitors were notified either in person, via phone call, or via text message by either the EPA-designated archaeologist or CH2M archaeologists.

## 4.3 Monitoring

Cultural monitors with 24- or 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) standard training were allowed to observe the excavation while heavy equipment was operating. Cultural monitors without HAZWOPER training were required to stand approximately 25 feet away from the excavation while heavy equipment was operating. All monitors were permitted to stop work to inspect the open excavation and remove materials before the materials were loaded onto trucks for disposal. CH2M archaeologists, Dave Sheldon or Robin McClintock, were onsite during all monitoring activity conducted in support of the removal activity.

## 4.4 Pedestrian Survey

A pedestrian survey was conducted of the burn area. Because the landform was excessively steep (slopes greater than 40 degrees), the survey did not use linear transects. Instead, the few relatively flat areas in the burn area were intensively surveyed in less than 5-meter intervals. Because the fire burned off much of the understory, visibility was excellent.

## 4.5 Historical Assessment

The derailment resulted in replacement and repairs of the WWTP influent pipeline and manhole. The influent pipeline was located underneath the HCRH. To remove and replace the influent pipeline, excavation was required. During excavation activities, which comprised digging a trench approximately 3 to 4 feet deep and approximately 4 feet wide, portions of the HCRH were removed, necessitating subsequent repairs. The HCRH was repaired to match conditions prior to the derailment, and then repaved with a smooth asphalt overlay and restriped. A finding of effect assessment was prepared for the HCRH. The findings are discussed below and provided in detail in Appendix E.

# Cultural Resources Monitoring Results

In accordance with the provisions of the CRP, photographs were taken of project activities (see Appendix C), and daily monitoring logs were recorded by the CH2M archaeologists during the response effort (see Appendix D). Monitoring was conducted by the Yakima Nation Tribe's cultural resources monitors, the EPA-designated archaeologist, and CH2M archaeologists. Locations within the AOE where ground disturbance occurred or where equipment was staged with no subsurface disturbance were monitored during removal activity. No cultural resources were found during the monitoring that was conducted from June 4 to June 22, 2016.

In addition to the monitoring described below, representatives of the Confederated Tribes of the Warm Springs (CTWS) requested a site visit of the project area. The site visit that took place on June 20, 2016, was attended by CTWS (Maralee Wernz and Roberta Kirk). Oregon Department of Environmental Quality Bob Schwarz and CH2M archaeologist David Sheldon coordinated and attended the site visit, and answered the CTWS representatives' questions.

## 5.1 Derailment Excavation Area

Monitoring was conducted during excavation of the derailed train car area (see Appendix C, Photographs 1 through 8). The soil matrix consisted of angular cobbles and gravels in a loose, medium brown silt, and was interpreted as artificial fill associated with construction and operation of the railroad. A thin layer (less than 2 inches) of dark, ashy material was observed across much of the remediation area approximately 2 to 3 feet below grade. This layer was interpreted as the remnant of ash and coal waste associated with the railroad. Below this darker ashy layer, the soil consisted of a light brown loam with fewer rounded gravels. No cultural resources were observed during excavation in the car removal area.

## 5.2 Wastewater Treatment Plant Influent Wastewater Conveyance Pipeline Replacement Area

Monitoring was conducted during the removal and replacement of the WWTP influent conveyance pipeline (see Appendix C, Photographs 9 through 11). No cultural resources were observed during excavation in the WWTP influent pipeline replacement area.

## 5.3 Hillside Area

A pedestrian survey of the entire burned hillside area was conducted on June 9, 2016 (see Appendix C, Photographs 12 and 13). Due to the recent fire, visibility was excellent. Modern garbage was observed throughout the area. In addition, the survey identified two previously undocumented historical sites. The first site, identified as Temp01, consisted of a small scatter of historic domestic debris dating between 1904 and 1940. The second site, identified as Temp02, consisted of large cement and rebar structural elements in ruin. The two sites were recorded by the CH2M archaeologist and formally documented on Oregon State Historic Officer archaeological site forms. Determinations of eligibility for listing in the NRHP were also prepared for each site and are included in Appendix E.

## 5.4 Groundwater Monitoring Well Area

Cultural monitoring was conducted during the installation of four groundwater monitoring wells north of the railroad (see Appendix C, Photographs 14 and 15). One of the groundwater monitoring well locations, MW-1, was located in the Waterfront Park parking lot. The remaining three groundwater



monitoring wells, MW-2 through MW-4, were accessed by the drill rig along an existing path, resulting in minimal ground disturbance.

The groundwater monitoring well drilling was observed by David Sheldon and Robin McClintock (CH2M), along with Will Badonie and Joe Herrera (Yakima Nation). The cuttings from each borehole were laid aside in 5-foot increments so the archaeologists and cultural monitors could sort through the matrix to determine if any buried archaeological deposits were encountered during drilling. Table 1 describes the soil for each monitoring well. No cultural resources were found in cuttings of any of the borings.

**Table 1. Groundwater Monitoring Well Soil Description Logs**

*Mosier Derailment Emergency Response, Cultural Resources Monitoring Report*

Monitoring Well	Depth (feet)	Soil Description	Cultural Resources
MW-1	0 to 5	Gray-brown silty sand with subrounded-to-angular gravels and cobbles less than 40 percent.	None
MW-1	5 to 10	Gray-brown silty sand with subrounded-to-angular gravels and cobbles less than 40 percent.	None
MW-2	0 to 5	Gray-brown silty sand with angular gravels and cobbles less than 30 percent. Band of oxidized soils observed from 2 to 3 feet.	None
MW-2	5 to 10	Gray-brown silty sand with angular gravels and cobbles less than 30 percent. Water table encountered at 10 feet.	None
MW-2	10 to 15	Gray-brown silty sand with angular gravels and cobbles less than 30 percent.	None
MW-2	15 to 20	Gray-brown silty sand with angular gravels and cobbles less than 30 percent. Excavation terminated at 20 feet.	None
MW-3	0 to 3	No soil matrix. Gray volcanic rock fragments fractured during drilling.	None
MW-3	3 to 5	Gray-brown silt loam with angular gravels and cobbles less than 30 percent. Reddish oxidation observed at 4 feet.	None
MW-3	5 to 10	Gray-brown silt loam with angular gravels and cobbles less than 30 percent.	None
MW-3	10 to 15	Gray-brown silt loam with angular gravels and cobbles less than 30 percent.	None
MW-3	15 to 20	Gray-brown silt loam with angular gravels and cobbles less than 30 percent. Excavation terminated at 19 feet 4 inches.	None
MW-4	0 to 5	Gray-brown silty sand with subrounded-to-angular gravels and cobbles less than 40 percent.	None
MW-4	5 to 10	Gray-brown silty sand with subrounded-to-angular gravels and cobbles less than 40 percent. Water table encountered at approximately 8 feet.	None
MW-4	10 to 15	Gray-brown silty clay with subrounded-to-angular gravels and cobbles less than 20 percent.	None

## 5.5 Shoreline Area

Monitoring occurred during the four pothole excavations that took place near the shoreline (see Appendix C, Photographs 16 through 18) No cultural resources were observed in these pothole excavations. During a visit to the shoreline area in the AOE to observe project activities on June 5, 2016, the Yakima Nation Cultural Monitor (Troy Whelamet) identified two fragments of cryptocrystalline silicate (CCS) raw material in the scoured bed of Rock Creek. Additional fragments of a similar CCS material were identified in the graveled roadbed under the Interstate 84 bridge near the shoreline. No morphological characteristics indicative of lithic reduction (for example, bulb of percussion, platform, flake scars) were observed on any of the fragments. The fragments were very small, typically less than 2 centimeters in maximum dimension, and were composed of a brownish-green material with inclusions (see Appendix C, Photograph 19). Given the material was observed in the bed of Rock Creek, it is probable that the source was located upstream. Likewise, the CCS material observed in the roadway was likely from an exogenous source. On June 7, 2016, Yakima Nation archaeologist (Jon Shellenberger) visited the site to examine the lithic raw material and discuss identification efforts with the EPA-designated archaeologist and the CH2M archaeologist. All monitors agreed that the raw material chunks observed lacked the characteristics indicative of lithic reduction and are not considered artifacts. Cultural resources were not identified in the shoreline area, including within the vicinity of the raw material finds.

## 5.6 Equipment Staging Area

The area north of the Mosier Fruit Company building and east of the US-30 overpass was used for the staging of fill and heavy equipment used to transport the rail cars offsite (see Appendix C, Photograph 20). The area was inspected by the EPA-designated archaeologist and the CH2M archaeologist. No cultural resources were observed within the heavy equipment staging area.

# Finding of Effects

## 6.1 Temp01

Temp01 was documented on an Oregon State Archaeological Site Record (see Appendix E). A formal determination of eligibility was completed and is also attached. Site Temp01 is recommended not eligible for listing on the NRHP.

## 6.2 Temp02

Temp02 was documented on an Oregon State Archaeological Site Record (see Appendix E). A formal determination of eligibility was completed and is also attached. Site Temp02 is recommended not eligible for listing on the NRHP.

## 6.3 Columbia River Highway Historic District

As stated previously in this report, the derailment resulted in replacement and repairs of the WWTP influent pipeline and manhole. The HCRH was repaired to match conditions prior to the derailment, and then repaved with a smooth asphalt overlay and restriped. The influent pipeline was located underneath the HCRH. The HCRH has been repaved on numerous occasions throughout its 100 years of existence. Replacing the influent pipeline, manhole cover, and repaving the surface would not alter the linear resource's use or change the characteristics of the historic roadway that contribute to its historic significance.

The roadway's alignment, location, and use would remain intact. Its appearance would have only a minor change; and overall, any visual effects from the derailment or the emergency response would not affect the integrity of design, location, feeling, setting, and association of the HCRH, and would not significantly diminish the roadway's integrity of materials or workmanship. The effects from the emergency response would not jeopardize the HCRH's role as a significant transportation route; rather, the repairs would have a beneficial effect by restoring the roadway, thereby prolonging its useful life and allowing it to continue to carry on its historic function as a transportation resource. Therefore, the recommended finding of effect is that the derailment response activity would have no adverse effect on the HCRH National Historic Landmark (NHL). The recommended finding of effect is that the derailment response activity would have no adverse effect on the HCRH NHL (see Appendix F).

# Conclusions

Two archaeological sites were identified, documented, and evaluated as a part of this investigation. The sites were recommended not eligible for listing in the NRHP. As such, neither is considered a historic property. Rock Creek Road, formerly a part of Highway 30, is part of the HCRH Historic District. The district was added to the NRHP as a National Historic Landmark in 1983. Replacement of the WWTP influent pipeline manhole cover, road bed, and repaving of the roadway surface of a small portion of the HCRH would cause little change to the historic roadway. The recommended finding of effect is that the Mosier Derailment Emergency Response had no adverse effect on the HCRH NHL. No other historic properties were adversely affected by the train derailment, subsequent fire, or removal activities.

# Works Cited

Advisory Council on Historic Preservation (ACHP). 2002. *Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan*. <http://www.achp.gov/pa14.pdf>. Accessed July 14, 2016.

Baker, Todd, Ron Kent, and John Fagan. 2001. *Cultural Resource Survey of the Proposed Mosier Waterfront Trail*. AINW Letter Report No. 547. Report prepared for Mosier Waterfront Park. Report on file at Oregon State Historic Preservation Office, Salem.

Cabebe, Teresa E. and Quent Winterhoff. 2005. *Archaeological Survey of Bridge 07392 (Rock Creek, Interstate 84 at MilePost 69.62), Wasco County, Oregon*. UO Museum of Natural and Cultural History Research Report No. 2005-23. Report prepared for Oregon Department of Transportation. Report on file at Oregon State Historic Preservation Office, Salem.

CH2M HILL. 2014a. *Archaeological Research Design for the Union Pacific Railroad Mosier Second Mainline Track Project*. Report prepared for Union Pacific Railroad. Report on file at Oregon State Historic Preservation Office, Salem.

CH2M HILL. 2014b. *Cultural Resources Survey of the Union Pacific Railroad Second Mainline Track, Wasco County, Oregon*. Report prepared for Union Pacific Railroad. Report on file at Oregon State Historic Preservation Office, Salem.

CH2M HILL Engineers, Inc. (CH2M). 2015. *Addendum to Cultural Resources Survey of Union Pacific Railroad Second Mainline Track, Wasco County, Oregon*. Report prepared for Union Pacific Railroad. Report on file at Oregon State Historic Preservation Office, Salem. April.

Federal Emergency Management Agency. 2016. National Incident Management System. <https://emilms.fema.gov/IS200b/ICS0106320text.htm>. Accessed July 14, 2016.

U.S. Forest Service (USFS) and CH2M HILL Engineers, Inc. (CH2M). 2016. *UPRR Mosier Derailment Cultural Response Plan*.

Appendix A  
UPRR Mosier Derailment Cultural  
Response Plan

# UPRR Mosier Derailment Cultural Response Plan (6-04-16) revised (6-06-2016)

**Preparers:** Marge Dryden, On-Scene Federal Archaeologist,  
Robin McClintock, CH2M HILL Archaeologist, and  
David Sheldon, CH2M HILL Archaeologist

## Participants

Oregon State Historic Preservation Office (SHPO)  
Confederated Tribes of Warm Springs (CTWS)  
Confederated Tribes of the Umatilla Indian Reservation (CTUIR)  
Confederated Tribes and Bands of the Yakama Nation (YN)  
Nez Perce Tribe

## Incident

On June 3, 2016 at approximately 12:15 pm a UPRR train derailed at Mosier, Oregon. Sixteen oil tanker railcars derailed east of Rock Creek RR bridge for approximately 150 meters. Four of the cars were damaged, releasing oil in the surrounding area. Cars were carrying Bakken crude and burned until approximately 2:00 a.m. on June 4, 2016. A small 1-acre wildfire was ignited by the burning cars on the south side of Rock Creek Park Road.

## Previous Cultural Surveys

The Area of Effect has been surveyed for cultural resources in the past on at least two occasions. No cultural resources were identified in those surveys. The nearest recorded archaeological sites are 35WS581, a historic railroad siding, and 35WS242 (Mosier Mounds). Both sites are over 300 meters from the Area of Effect.

## Plan of Action

No cultural resource oversight is required of the following actions:

- Pumping of cars (transfer of material)
- Removal of cars and misc. train debris (ties, track, etc.)
- Removal of contaminated soils, ballast, and other materials
- Rail and ballast replacement

**The on-site cultural monitors and archaeologists will be allowed to inspect the Area of Effect as removal of cars and debris occurs and again after excavation and removal of contaminated materials as needed. The archaeologist will be informed of the final destination of all contaminated materials. The archaeologist will conduct a surface survey of the one acre wildfire area. Archaeologist will assess any shoreline clean-up efforts to determine the type of cultural review needed. Should the extent of the situation change this cultural plan will be reevaluated.**

Both the actions above and additional project activities not noted above but requiring cultural resource oversight at the daily 6:00AM incident command meeting. At that time, the CH2M HILL cultural monitor, in conjunction with the USFS archaeologist and tribal representatives in attendance, will advise the appropriate cultural response, if any. These actions may include inspection of areas prior, during, and after ground disturbance.

### Incidental Discovery of Human Remains

If human remains are identified AT ANY TIME during project activities, work in the immediate vicinity of the find (100 feet) will stop. The Incident Commander, the Oregon SHPO, the County Coroner, and the CTWS, the CTUIR, the YIN, and the Nez Perce Tribe will be immediately notified. The site will not be disturbed until it has been examined and consultations are completed with the above parties. A list of appropriate contacts for each party will be provided in the attached Appendix.

### Incidental Discovery of Cultural Resources During Monitoring

Any post-incident discoveries will be recorded per Oregon SHPO guidelines, including evaluation, damage assessment, and possible mitigation plan. Any incidental discoveries of cultural resources during excavation or other site work will be immediately reported to Environmental Unit Leader see ICS FORM 204 for details.

### Site restoration

Prior to site restoration efforts, potential impacts to cultural resources will be addressed.

### Reporting

A summary of daily activities performed by the CH2M HILL cultural monitor will be provided to the Environmental Unit lead. The summary will include project activities for the day (including location and extent of work), a list of cultural personnel in attendance, actions taken by the cultural monitor, and follow up actions that should take place.

At the conclusion of the project the CH2M HILL archaeologist will prepare a monitoring report detailing observations including volumes, extent, and types of materials removed from the Area of Effect.



## Appendix A: Contact Information in Case of Inadvertent Discovery of Human Remains

### Incident Commander

#### Oregon SHPO

Name: Matthew Diederich

Cell: 503-986-0577

Email: [Matthew.Diederich@oregon.gov](mailto:Matthew.Diederich@oregon.gov)

#### Confederated Tribes of the Umatilla Indian Reservations

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Phone: 541-276-3447

Email: [TearaFarrowFerman@ctuir.org](mailto:TearaFarrowFerman@ctuir.org)

#### Confederated Tribes and Bands of the Yakama Nation

Name: Johnson Meninick

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Email: [Johnson@yakama.com](mailto:Johnson@yakama.com)

#### Confederated Tribes of Warm Springs:

Name: Kathleen Sloan

Phone: (541) 553-3555

Email: [Kathleen.sloan@Ctwsbnr.org](mailto:Kathleen.sloan@Ctwsbnr.org)

#### Nez Perce Tribe

Name: Aaron Miles

Phone: 208-621-3847

[2moon@nezperce.org](mailto:2moon@nezperce.org)

#### Wasco County Sheriff

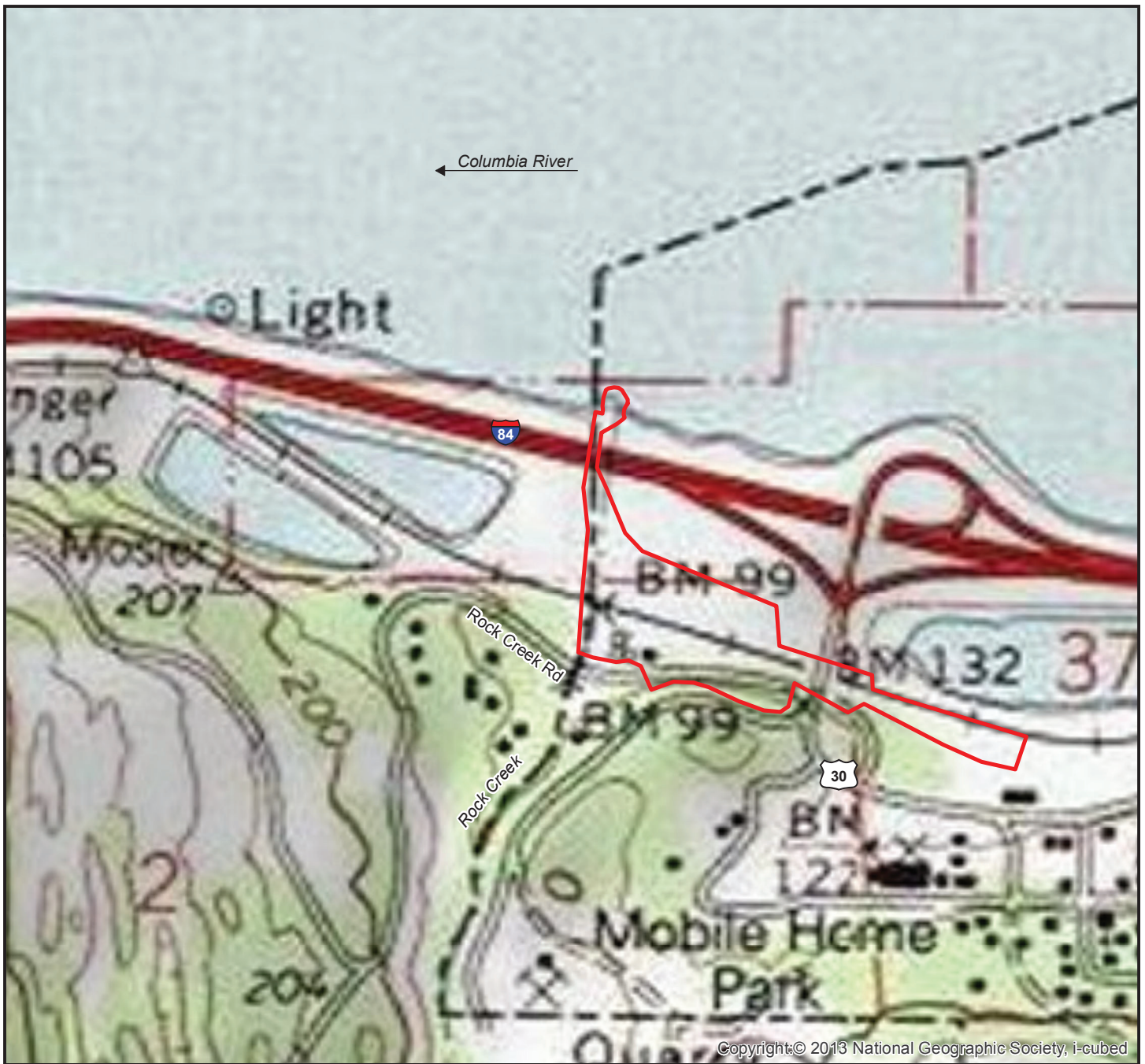
Phone: 541-506-2580

#### Wasco County Coroner

Phone: 541-506-2600

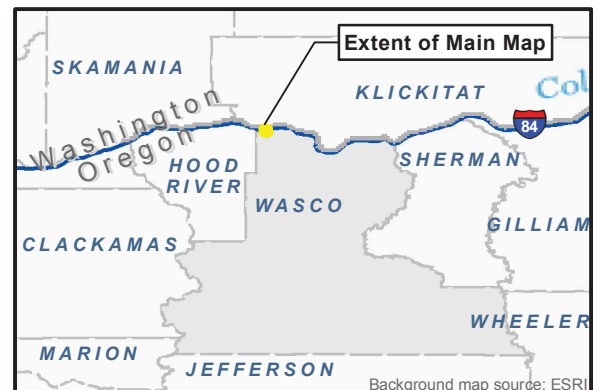
## Appendix B

### Figures



### Legend

AOE (Area of Effect)



White Salmon, OR 7.5 USGS Quad, 1994  
Township 2 N, Range 11 E, Sections 1, 2

0 200 400 600 800 1,000 Feet

**FIGURE 1**  
**Cultural Resources Area of Effect**  
Union Pacific Railroad  
Mosier Derailment Response Project  
Wasco County, Oregon

**ch2m**

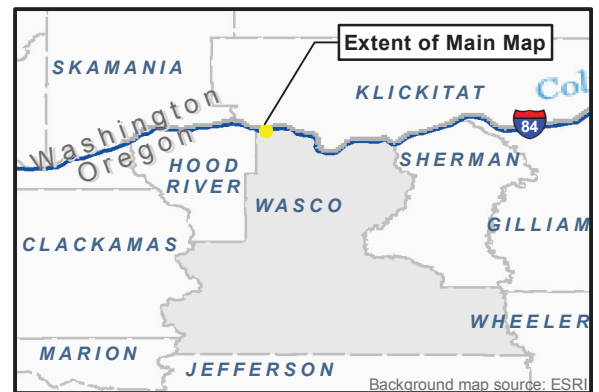




Acknowledgment of the originating agencies would be appreciated in products derived from these data.

## Legend

- |   |   |
|---|---|
| <span style="border: 2px solid red; padding: 2px;"> </span> AOE (Area of Effect)                                    | <span style="background-color: #c44e52; border: 1px solid black; padding: 2px;"> </span> Equipment Staging Area |
| <span style="color: blue;">+</span> Monitoring Wells  | <span style="background-color: #800080; border: 1px solid black; padding: 2px;"> </span> WWTP                   |
| <span style="color: magenta;">+</span> Extraction Wells   | <span style="background-color: #4682b4; border: 1px solid black; padding: 2px;"> </span> Shoreline Area         |
| <span style="color: yellow;">⊙</span> Manhole   | <span style="border-bottom: 2px dashed black;"> </span> Wastewater Treatment Plant Outfall Pipeline             |
| <span style="background-color: yellow; border: 1px solid black; padding: 2px;"> </span> Mosier Fruit Company        | <span style="color: blue;">—</span> Rock Creek  |
| <span style="background-color: yellow; border: 1px solid black; padding: 2px;"> </span> Hillside Area               | <span style="color: blue;">—</span> Wastewater Treatment Plant Influent Pipeline                                |
| <span style="background-color: #ff6347; border: 1px solid black; padding: 2px;"> </span> Derailment Excavation Area |   |



**FIGURE 2**  
**Cultural Resources Area of Effect**  
 Union Pacific Railroad  
 Mosier Derailment Response Project  
 Wasco County, Oregon

ch2m.



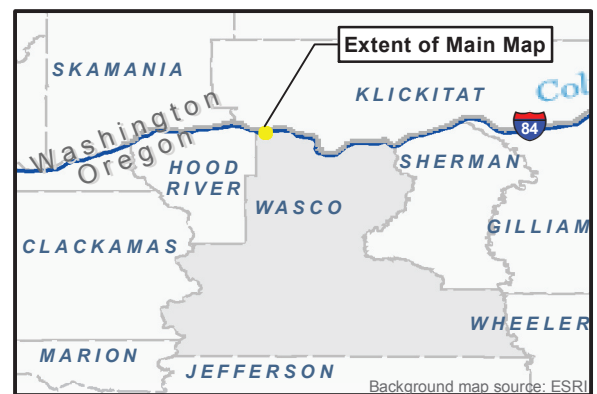


## Legend

AOE (Area of Effect)

Image Flown 1930

Image Source: USACE (United States Army Corps of Engineers)



**FIGURE 3**

**1930 USACE Aerial Imagery Prior to Dam Construction**

Union Pacific Railroad

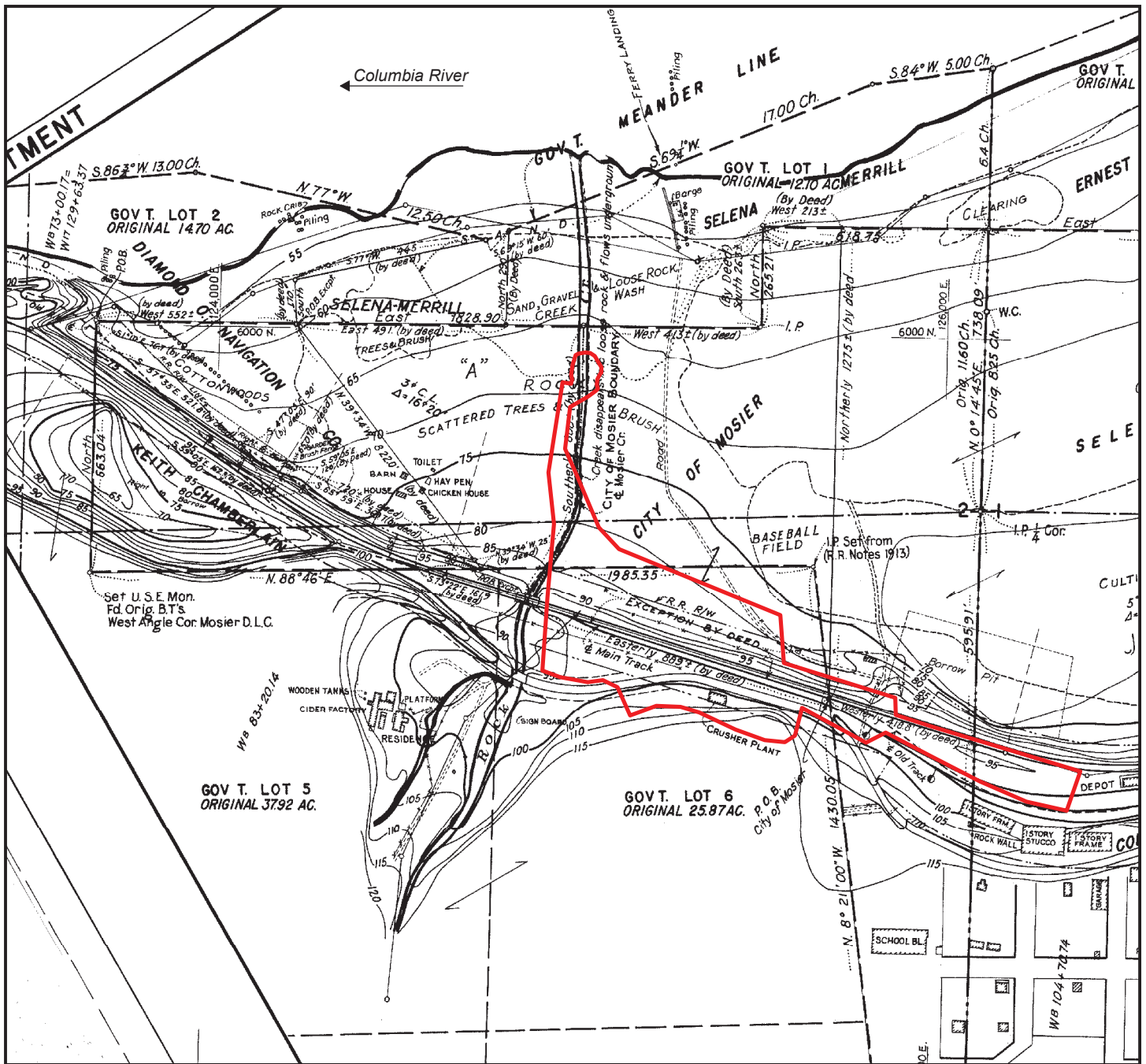
Mosier Derailment Response Project

Wasco County, Oregon

**ch2m.**



0 250 500 750 1,000 Feet

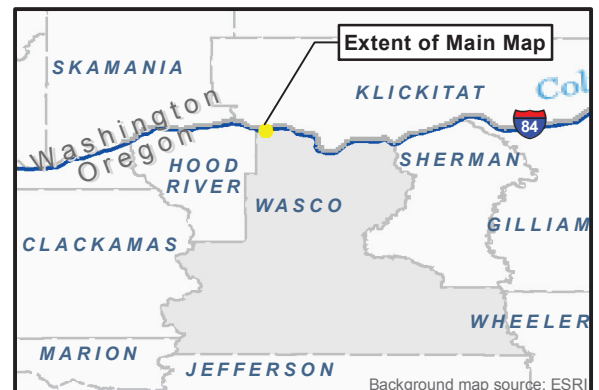


## Legend

AOE (Area of Effect)

1936 Plat Map

Source: USACE (United States Army Corps of Engineers)



Background map source: ESRI

## FIGURE 4

### 1936 USACE Plat Map

Union Pacific Railroad

Mosier Derailment Response Project

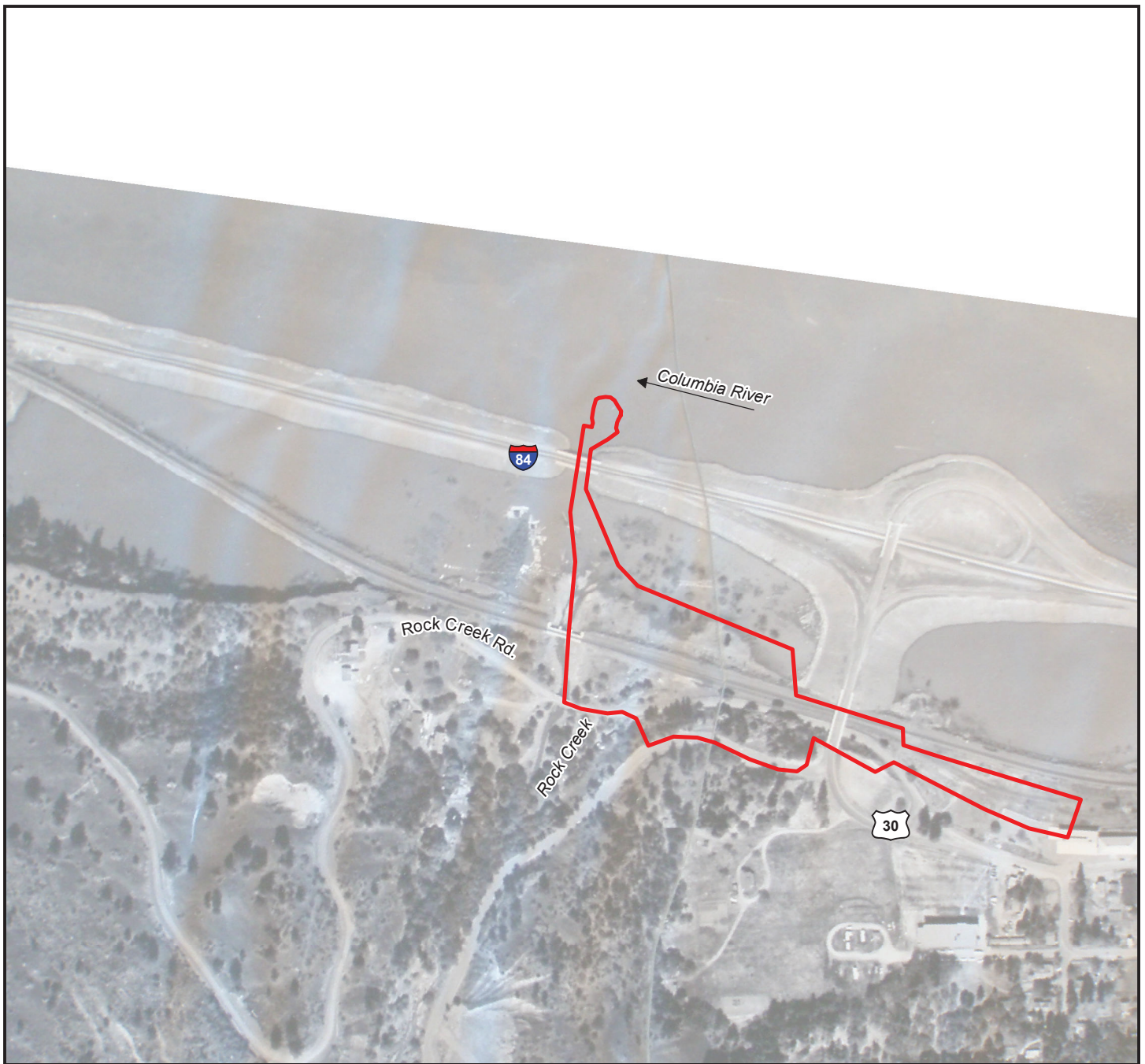
Wasco County, Oregon

ch2m



0 250 500 750 1,000 Feet





# Legend

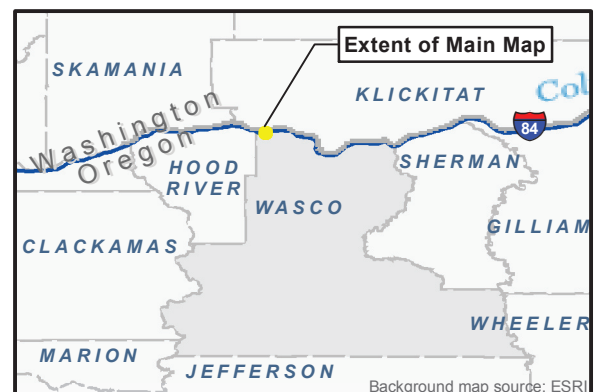
AOE (Area of Effect)

Image Flown 1955

Image Source: Oregon State Highway Department



0 250 500 750 1,000  
Feet



**FIGURE 5**

**1955 Aerial Imagery of Sundial to the Dalles Section**

Union Pacific Railroad

Mosier Derailment Response Project

Wasco County, Oregon

**ch2m**

## Appendix C

### Photographs





*Photograph 1. Overview of derailment area after rail cars have been purged, cleaned, and prepared for transport offsite. The excavator in the background is stockpiling material bladed from the southern side of the railroad. Photograph taken from the overpass. Aspect: southwest.*



*Photograph 2. Overview of excavation south of railroad tracks. Aspect: west.*





*Photograph 3. Initial potholing at eastern end of excavation area conducted on June 9, 2016. Native soils were visible at the base of excavation. Aspect: west.*



*Photograph 4. Sidewall of pothole excavation shown. A thin layer of coal waste associated with the railroad is visible in the sidewall. This layer was observed throughout the excavation. Aspect: southwest.*





*Photograph 5. Confirmatory sampling during initial remediation indicated that additional excavation was needed to remove contamination in a small area within the remediation footprint. Follow-up excavation was conducted on June 22, 2016. Aspect: west.*



*Photograph 6. Drilling of well on southern side of tracks on June 15, 2016. Aspect: east.*





*Photograph 7. Excavation and repair of UPRR line after train cars were moved off to the side. Photograph taken on June 5, 2016. Aspect: west.*



*Photograph 8. Spoils pile from excavation of ballast immediately below damaged track area. Aspect: northeast.*





*Photograph 9. Overview of open excavation. White dots were used to indicate areas where no further contamination was observed within the excavation. Aspect: south.*



*Photograph 10. Overview of open excavation, replacement of sewer line, and installation of new manway. Aspect: southwest.*





*Photograph 11. Overview of trenching within Rock Creek Road to replace the sewer line to the WWTP. Aspect: east.*



*Photograph 12. Overview of hillside area. Aspect: southeast.*





*Photograph 13. Overview of hillside area. Aspect: northwest.*



*Photograph 14. Mobile well drilling operation located north of railroad tracks on June 17, 2016. Aspect: northwest.*





*Photograph 15. Well drilling cuttings were placed in plastic sleeves and marked with depth. Cultural monitors were given the opportunity to cut open the bag and sort through the excavated material.*



*Photograph 16. Overview of manway for WWTP outfall line closest to Columbia River. Confluence of Rock Creek and Columbia River and boom area visible in the background. Aspect: west.*





*Photograph 17. Overview of Interstate 84 bridge over Rock Creek and beach access road where CCS raw material was observed. Aspect: south.*



*Photograph 18. Ramp constructed connecting beach access road on northern side of tracks to Waterfront Park parking lot. Photograph taken on June 6, 2016. Aspect: southeast.*



*Photograph 19. CCS raw material nodule fragments observed in the bed of Rock Creek on June 5, 2016, by Troy Whelamet (Yakima Nation cultural monitor).*



*Photograph 20. Overview of the same beach access road crossing of tracks taken from overpass on June 8, 2016. Equipment staging area visible beyond the tracked vehicle in the background. Aspect: east.*

## Appendix D

### Daily Monitoring Logs



# Mosier Derailment Cultural Resources Daily Log (June 5, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

### Yakama Nation (YN) Staff and Monitor(s):

- Elizabeth Sanchez – Yakama Nation Environmental Program Manager
- Brady Kent – Yakama Nation Environmental Lead
- Troy Whelamet – Yakama Nation Cultural Monitor
- Will Badonie – Yakama Nation Environmental Specialist

Marge Dryden - USFS archaeologist

Mark Ochsner - CH2M HILL

John Schoonover - CH2M HILL

## Daily Log

- Dave Sheldon/CH2M arrives in Mosier at 8:15 after detouring to Rowena exit.
- At 9AM, Dave Sheldon with Marge Dryden (USFS), Wil Badonie (YN environmental monitor), Troy Whelamet (YN cultural monitor), Brady Kent (YN environmental lead), and John Schoonover (CH2M environmental engineer). The spoils pile from the excavation beneath the railroad tracks was photographed, documenting that the entirety of the excavation consisted of angular ballast.
- After observing the project area from the overpass, Marge Dryden (USFS), Troy Whelamet (YN), Wil Badonie (YN), John Schoonover (CH2M), and myself looked at the small wildfire area on the south side of the project, southwest of the overpass. The area was very steep and burned modern garbage was observed. It was possible that some of the garbage may have exceeded the 50 year threshold for consideration for the National Register of Historic Places (NRHP). Marge Dryden agreed the wildfire area will need to be formally surveyed at a later date.
- After the wildfire area, we accessed the beach near the mouth of Rock Creek via the off-ramp embankment and an existing east/west trail north of the railroad. Along the way we passed through an OPRD park area adjacent to Rock Creek. Areas near Rock Creek were informally surveyed for cultural resources by the archaeologists and YN cultural monitors. Troy Whelamet (YN) observed two rounded, pea-gravel sized pieces of crypto-crystalline silicate (CCS) material, banded brown and tan in color, in the dry bed of Rock Creek. CCS is a preferred raw material for the creation of stone tools. Dave Sheldon/CH2M observed the material and did not identify any attributes of flake morphology, and as such, the fragments were not considered artifacts. Marge Dryden (USFS) agreed with this assessment.

Troy found another fragment in sandy soils farther downstream (to the north). He snapped a photograph of a CCS material, although it was not possible to determine if the fragment contained any attributes of flake morphology from the photograph. The archaeologists and YN monitor attempted to relocate the fragment in the creek bed and adjacent embankment but could not find it. A plan was made to formally survey in the area in the coming days when Troy would be able to show us exactly where he found the fragment of CCS material.

- Returned to the Command Center by 11AM where Marge Dryden (USFS) and Dave Sheldon/CH2M discussed the cultural resources response plan distributed to Oregon SHPO and consulting parties around 12 PM. USFS stated that revisions would be made to the plan. At approximately 1PM, Marge Dryden (USFS), Dave Sheldon (CH2M), and YN cultural monitors visited the existing road below the Rock Creek railroad bridge. Plans to excavate that area were abandoned, and no observations were conducted. The same parties visited the site of an anticipated at-grade crossing. Marge Dryden (USFS), YN monitors and myself agreed the berm was artificial. It was Dave Sheldon's/CH2M opinion that the berm consisted of fill material associated with the railroad grade and would not require cultural monitoring during excavation of the berm. Brady Kent (YN) stated that he believed the berm to be artificial and an onsite cultural monitor was not needed. He requested that if the excavation were to take place in the early morning that notification be sent to him via text for YN records.
- At 6PM, Dave Sheldon/CH2M departed the project area with a plan to return at 7AM for the general staff meeting.

# Mosier Derailment Cultural Resources Daily Log (June 6, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Elizabeth Sanchez – Yakama Nation Environmental Program Manager
- Brady Kent – Yakama Nation Environmental Lead
- Troy Whelamet – Yakama Nation Cultural Monitor
- Will Badonie – Yakama Nation Environmental Specialist

Marge Dryden - USFS archaeologist

Mark Ochsner - CH2M HILL

John Schoonover - CH2M HILL

## Daily Log

- Dave Sheldon/CH2M arrived in Mosier at 7:00AM for general staff meeting. Meeting delayed until 9:15AM. During the meeting, Brady Kent (YN) commented that YN was happy with the response efforts and progress made so far.
- 11:00AM, cultural resource observations being integrated with environmental unit, new lead is Sonja Larson, Washington Department of Ecology (WA DOE). David Sheldon's/CH2M first task was to work with Marge Dryden (USFS) to modify the Cultural Resource Response Plan to add explicit language about roles and reporting responsibilities, specifically, for cultural staff to be involved in 6AM planning meetings and responsible for calling out where cultural monitoring would be necessary.
- 12:45PM, Marge and Dave Sheldon/CH2M begin updating cultural response plan. The draft is completed by 2:30PM and sent to Sonya Larson (WA DOE) and Geoff Brown (Oregon Department of Environmental Quality [OR DEQ]).
- At 3:00PM, John arrives and escorts Dave Sheldon/CH2M, Marge (USFS) and Wil (YN) to the location of the at-grade crossing construction. The original at-grade crossing plan was modified. We photographed the access area and the area where the ramp was constructed and concluded that the berm was artificial. After, Marge, Wil (YN) and Dave Shelton visually inspected the area near and within Rock Creek near the I84 overpass to attempt to relocate the possible CCS flake Troy Whelamet (YN) observed and photographed yesterday. We did not relocate the flake, but did note crushed quartzite material evident within the road fill.
- At approximately 4PM, a VIP tour led by EPA, including members of the tribal council from YN, Warm Springs Tribe, and Confederated Tribes of the Umatilla Indian Reservation, was conducted. Work was temporarily stopped while a blessing ceremony was performed. Shortly after the ceremony, the VIP tour left the site. Neither Dave Sheldon/CH2M nor Marge Dryden/USFS were involved in the tour.

- At 5:30PM, Dave Sheldon/CH2M attended the planning meeting until approximately 6:15PM, when he left the site for the day.

# Mosier Derailment Cultural Resources Daily Log (June 7, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Brady Kent – Yakama Nation Environmental Lead
- Troy Whelamet – Yakama Nation Cultural Monitor
- Will Badonie – Yakama Nation Environmental Specialist

Marge Dryden - USFS archaeologist

Mark Ochsner - CH2M HILL

John Schoonover - CH2M HILL

## Daily Log

- Dave Sheldon/CH2M arrives in Mosier at 5:45AM for 6:00AM general staff meeting.
- 7:40AM receive text from Marge Dryden (USFS) that Jon Shellenberger, (YN archaeologist) will visit the site to survey the Rock Creek area for cultural material after Troy (YN) reported his 6/5/16 observations of lithic material (CCS).
- 8:45AM Brady Kent (YN) requests email copies of historic aerial imagery (1930 and 1955) provided by Marge Dryden (USFS). Dave Sheldon/CH2M forwarded emails containing the maps and imagery.
- 9:10AM Dave Sheldon/CH2M conducts background research for cultural resources investigations conducted in an area where groundwater monitoring wells are tentatively planned to be installed. This area is north of the railroad tracks, east of Rock Creek, and south of I-84.
- 10:30AM David Sheldon/CH2M informed that Jon Shellenberger (YN) is onsite. Dave Sheldon/CH2M meets with Jon and helps him get badged for site access. Along with Marge Dryden (USFS) Dave Sheldon/CH2M briefs Jon on project activities to date.
- 11:30AM Dave Sheldon/CH2M meets with Marge Dryden (USFS), Troy Whelamet (YN), and Jon Shellenberger (YN). The group met John Schoonover/CH2M for escort across railroad to access Rock Creek area. The group intensively surveyed the area where Troy had initial observed the CCS material, just north of the I-84 overpass within the loose, sandy roadway. The roadway is public access and appeared to have been disturbed by past access. At least six additional fragments of CCS material were observed, however all archaeologists agreed that none of the fragments contained attributes of flake morphology and are therefore not considered to be artifacts. Jon asked what the project planned to do at the location to protect potential cultural resources. Dave Sheldon/CH2M proposed that the area be monitored on a daily basis while project activities, such as vehicular traffic, were using the area. Any artifacts or fragments of lithic material would be photographed. Artifacts would be set off to the side of the access road to avoid further impacts. All finds would be noted in the cultural daily log. Any artifacts



would be discussed in the final cultural monitoring report. Jon acknowledged this plan and also requested that oral history documentation be considered for any potential future mitigation efforts, which would be applicable only if resources eligible for listing or human remains were discovered. He also requested a copy of the cultural response plan as well as the final cultural monitoring plan.

- 1:45PM Dave Sheldon/CH2M Returns to Command Center to compile past daily logs for distribution to Sonja Larson (WA DOE), Environmental Unit Lead.
- At 5PM, Dave Sheldon/CH2M attends the Unified Command meeting. Brady Kent (YN) had no comments on actions conducted today or proposed for tomorrow.
- At 5:45PM Dave Sheldon/CH2M leaves the site for the day.

# Mosier Derailment Cultural Resources Daily Log (June 8, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Elizabeth Sanchey – Yakama Nation Program Manager
- Troy Whelamet – Yakama Nation Cultural Monitor
- Will Badonie – Yakama Nation Environmental Specialist

Marge Dryden – United States Forest Service (USFS) archaeologist

Brooks Stanfield – Environmental Protection Agency (EPA)

Sonja Larson – Washington Department of Ecology (WA DOE)

Mark Ochsner - CH2M HILL

Chris Powers - CH2M HILL

## Daily Log

- Dave Sheldon/CH2M arrives in Mosier at 6:15AM for general staff meeting.
- 6:45AM Dave Sheldon/CH2M and Marge Dryden/USFS head to overpass to photograph project area.
- 7:15AM Return to Command Center. Sonja Larson, Environmental Unit lead, requests that CH2M compile a cultural resource section for the Remediation Plan and coordinate a review with Marge Dryden/USFS and Elizabeth Sanchey/YN.
- 9:00AM Dave Sheldon/CH2M attends unified command general staff meeting. A tribal ceremony will take place tomorrow (6/9) at 8:30AM, followed by a VIP tour and press conference led by EPA after 10AM.
- 11:00AM Dave Sheldon/CH2M and Marge Dryden/USFS observe tire pile encountered during blading just east of derailment area. Blading was conducted to allow access of tank removal equipment. Closer inspection indicated that the tires were modern, and did not meet the 50 year threshold for consideration as a historic property.
- 11:30AM Observe and photograph loading of cleaned empty tankers onto lowboy tractor trailer.
- 12:45PM Dave Sheldon/CH2M provides Elizabeth Sanchey/YN an opportunity to comment on the cultural resources section of the remediation plan per Environmental Unit Lead request.
- 3:15PM Dave Sheldon/CH2M and Marge Dryden/USFS visit the beach area to monitor road disturbance for potential cultural resources where lithic raw material was previously observed by the YN archaeologist and cultural monitor. Dave notified Troy/YN about the plan, however, Troy did not attend at that time. The area was inspected, but no additional lithic raw material or artifacts was observed. We met with Troy/YN shortly after near the Rock Creek bridge and informed him of the monitoring trip results.

- 4:45PM Dave Sheldon/CH2M meets with Elizabeth Sanchez (YN) to discuss cultural plan with her and the YN cultural monitor, however the meeting was postponed.
- At 5PM, Dave Sheldon/CH2M attends the Unified Command meeting. Elizabeth Sanchez (YN) had no comments on actions conducted today or proposed for tomorrow.
- At 5:40PM, Dave Sheldon/CH2M meets with Troy Whelamet (YN) to briefly discuss monitoring plans for remediation scheduled to start tomorrow. Dave informed Troy that he, or any other YN monitor, would have the opportunity to provide remediation staff with a cultural awareness briefing prior to excavation, and that there would be an opportunity to inspect the excavated area after excavation was complete but before backfill was complete.
- At 5:45PM Dave Sheldon/CH2M leaves the site for the day.

# Mosier Derailment Cultural Resources Daily Log (June 9, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Brady Kent – Yakama Nation Environmental Lead
- Troy Whelamet – Yakama Nation Cultural Monitor
- Will Badonie – Yakama Nation Environmental Specialist

Marge Dryden – United States Forest Service (USFS) archaeologist

Geoff Brown – Oregon Department of Environmental Quality

Mark Ochsner - CH2M HILL

Nathan Williams- CH2M HILL

## Daily Log

- 7:15AM Dave Sheldon/CH2M arrives in Mosier.
- 8:25AM Dave Sheldon/CH2M, Marge Dryden/USFS, and Wil Badonie/YN, are escorted by CTEH safety and EPA to the location where the tankers were temporarily staged to inspect the area prior to excavation per the cultural response plan. The area from Rock Creek RR Bridge to the area just north of the Mosier Fruit Growers building. Rounded cobbles were observed, indicating that intact sediments may be present below the subsurface. However; no cultural materials were observed.
- 10:00AM Dave Sheldon/CH2M heads to overpass to photograph project area.
- 10:15AM Dave Sheldon/CH2M and Marge Dryden/USFS, head to remediation site to observe loadout of previously stockpiled materials.
- 2:00PM Dave Sheldon/CH2M, Marge Dryden/USFS, and Wil Badonie/YN, survey the burned area south of the railroad. A small scatter of historic domestic debris dating to at least 1940 was recorded for documentation on an archaeological site form.
- 3:15PM Dave Sheldon/CH2M, Marge Dryden/USFS, Wil Badonie/YN, Brady Kent/YN, and Troy Whelamet/YN observe potholing excavations to locate the city sewage line. Prior to excavation, a brief cultural resources briefing was provided by Dave Sheldon/USFS. An opportunity to speak was provided to the YN cultural monitors as well. Two excavations were conducted. Archaeologists and cultural monitors were allowed to inspect the subsurface during several breaks in excavation. No cultural resources were observed.
- 5:00PM Potholing excavation concludes for the day. Cultural monitors leave the excavation area.
- 6:00PM Dave Sheldon/CH2M briefs Robin McClintock/CH2M about ongoing project details to ensure smooth transition as he covers archaeological monitoring duties.
- 6:10PM Dave Sheldon/CH2M leaves the site for the day.

# Mosier Derailment Cultural Resources Daily Log (June 10, 2016)

## Preparer

CH2M HILL Archaeologist: Robin McClintock (503) 329-2458. Robin.McClintock@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Brady Kent – Yakama Nation Environmental Lead
- Troy Whelamet – Yakama Nation Cultural Monitor
- Will Badonie – Yakama Nation Environmental Specialist

Marge Dryden – United States Forest Service (USFS) Archaeologist

Geoff Brown – Oregon Department of Environmental Quality

Mark Ochsner - CH2M HILL

## Daily Log

- 6:30 Robin McClintock/CH2M arrives in Mosier. Attends morning meeting
- 8:25AM Robin McClintock/CH2M and Marge Dryden/USFS walk to excavation site and begin observing excavations. All railcars have been removed.
- 9:00AM Robin McClintock/CH2M heads to outfall at beach to observe vac potholing adjacent to manhole. The vac truck had three events where it had to stop for clogged line. Vac potholing concluded approximately 1:00pm
- 1:15 PM Robin McClintock/CH2M heads back to join Marge Dryden at excavation site adjacent to tracks and heads east to observe 35WS581 to make sure it was not being affected by project activities. No activities were observed near the site.
- 2:00pm Marge received a call from one of tribal monitors to come to beach to look at a find. When we arrived I determined that the find was a sturgeon plate. We looked it up online so we could show photos to the Yakama monitors.
- 2:15-3:00 continued to monitor excavations adjacent to tracks. No cultural resources were observed.
- 3:15 Elizabeth Sangay (?) Yakama tribal member arrives at beach to examine sturgeon plate and questions our analysis. We assure her it is not human. She says she will perform a ceremony to “repatriate” the find after we leave.
- 3:30-5:30 Robin McClintock continues to monitor excavations adjacent to tracks.
- 5:30 Robin McClintock returns to Schoolhouse to prepare monitoring report and calls Christine Roberts to report out on day.
- 6:00 Robin McClintock/CH2M leaves the site for the day.

# Mosier Derailment Cultural Resources Daily Log (June 11, 2016)

## Preparer

CH2M HILL Archaeologist: Robin McClintock (503) 329-2458. Robin.McClintock@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Brady Kent – Yakama Nation Environmental Lead
- Troy Whelamet – Yakama Nation Cultural Monitor
- Will Badonie – Yakama Nation Environmental Specialist

Marge Dryden – United States Forest Service (USFS) Archaeologist

Mark Ochsner - CH2M HILL

## Daily Log

- 6:30AM Robin McClintock/CH2M arrives in Mosier and heads straight to excavation site
- 7:00AM Robin McClintock/CH2M begins observing excavations adjacent to tracks.
- 10:00AM Marge Dryden/USFS arrives and joins Robin McClintock in monitoring excavation.
- 12:00PM Robin McClintock/CH2M joins Marge Dryden at beach outfall area where she is being informed by Elizabeth Sanchey (YIN) that she now believes that the beach area is a village site. We assure her that there are no plans for excavations in the beach area and that only the existing manhole in the outfall will be monitored.
- 2:00PM Tribal representatives leave the site.
- 2:30PM Marge Dryden leaves the site.
- 3:30PM Robin McClintock/CH2M begins observing excavation of sewer line from excavation to the waste water treatment plant.
- 6:00PM Excavation of the sewer line is completed. No cultural resources are observed.

# Mosier Derailment Cultural Resources Daily Log (June 13, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

David Sheldon - CH2M HILL

Brad Ostapkowicz - CH2M HILL

## Daily Log

- 6:55AM Dave Sheldon/CH2M arrives in Mosier. Discusses proposed work activities with Brad Ostapkowicz/CH2M. No ground disturbance planned for today.
- 7:20AM Dave Sheldon/CH2M inspects and observes the locations of four planned monitoring wells north of the UPRR line. The organic duff layer was cleared away and inspected at each location. No cultural materials were observed on the surface.
- 8:00AM Dave Sheldon/CH2M leaves the site for the day.

# Mosier Derailment Cultural Resources Daily Log (June 14, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Brady Kent – Yakama Nation Environmental Lead

CH2M HILL

David Sheldon - Archaeologist

Mark Ochsner – Project Manager

## Daily Log

- 6:55AM Dave Sheldon/CH2M arrives in Mosier.
- 7:15AM Dave Sheldon/CH2M, Brady Kent/YN, observe start of excavation near east end of Waste Water Treatment Plant (WWTP) to replace sewer line (green pvc pipe). The pipe is located in a trench full of fill material (brown silts with angular gravels). No cultural resources observed.
- 9:30AM A second excavator begins excavation approx. 75 yards to the east of the WWTP for the placement of a new manway. A buried cement pylon with a metal guywire anchor, and a decommissioned blue PVC water pipe were encountered. No cultural resources observed. The asphalt was cut through US-30 to the east of this location, but not yet removed.
- 11:30AM “Potholing” at four locations between new manway location and WWTP to identify any contamination that may have been missed during previous remediation efforts. None located. No cultural resources observed.
- 1:15PM Dave Sheldon/CH2M discusses work schedule with Bryan Robinson/UP. No further excavation planned today as the manway arrived late and they did not want to leave an open excavation in the footprint of US-30. Work scheduled to resume at 7:00AM tomorrow.
- 1:30PM Dave Sheldon/CH2M leaves the site for the day.



# Mosier Derailment Cultural Resources Daily Log (June 15, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

Yakama Nation (YN) Staff and Cultural Monitor(s):

- Brady Kent – Yakama Nation Environmental Lead
- Joe Herrera – Yakama Nation Cultural Monitor
- Jon Demoty – Yakama Nation Environmental Specialist

CH2M HILL

David Sheldon – Archaeologist

Mark Ochsner – Project Manager

## Daily Log

- 6:55AM Dave Sheldon/CH2M arrives in Mosier.
- 7:15AM excavation of trenches (backfilled from yesterday's excavation) commences. New sewer line pipe laid and backfilled from west to east.
- 11:30AM Contamination encountered in trench near location of new manhole cover. Excavation expanded to chase contamination. Native soils exposed in southern excavation wall. No cultural materials were observed in the exposed wall.
- 2:00PM Remediation of contaminated soils complete.
- 4:00PM Manway excavation opened and manway placed.
- 4:45PM Dave Sheldon/CH2M takes GPS points and photographs of cement structure and adjacent berm south of US-30 for recordation on an Oregon SHPO site form.
- 5:15PM Dave Sheldon/CH2M leaves the site for the day.

# Mosier Derailment Cultural Resources Daily Log (June 22, 2016)

## Preparer

CH2M HILL Archaeologist: David Sheldon (360)219-6953 david.sheldon@ch2m.com

## Attendees

### CH2M HILL

David Sheldon – Archaeologist

Mark Ochsner – Project Manager

## Daily Log

- 8:00AM Dave Sheldon/CH2M arrives in Mosier.
- 8:15AM excavation begins in previously remediated area just east of the new manhole location where samples taken from the floor of the original excavation showed that additional contamination remained. A portion of the excavation approximately 8 feet north/south by 20 feet east/west was reopened and exposed down to the original floor of the excavation. An additional one to two feet of material was removed. Verification samples were again collected and the open excavation was backfilled with clean material.
- 11:30AM Excavation completed. David Sheldon/CH2M leaves the site for the day.

Appendix E  
Site Forms and Determinations  
of Eligibility

## State of Oregon Archaeological Site Record

Administrative Data									
Smithsonian Number:					Alt Site Nbrs:	Temp01			
Site Name:					Form Type:	New			
Managing Office*:					County:	Wasco			
Owners(s):	Municipal (describe)								
Ownership/Management Notes:	Site is located on property owned by the City of Mosier								
National Register Status:	Status	Role	Date	Author					
	Not Eligible	Fieldworker	06/29/2016	David Sheldon					
Site Identification									
Site Type	• Refuse Scatter								
Features*:	Cultural Periods(s)*:		<ul style="list-style-type: none"> <li>• Early 20th Century (1900-1930)</li> <li>• Depression/WWII (1929-1950)</li> </ul>						
Dimensions:	Length	49	Width	11	Units	Feet	Area	539 Sq f	
Depth of Cultural Deposits	0 cm								
General Age	Historic								
Location Data									
Legal Description:	Township	Range	Section	¼	¼	¼	DLC	Meridian	
	2 N	11 E	2	SW	NE	SE		Willamette	
UTM Coordinates	Type	East	North	Method		Zone	Datum		
	Centerpoint	624425	5060223	GPS < 1m		10	83		
Map References	Map Name/Year				Revision Year				
	WHITE SALMON 7'				2014				
Access Description	The site is located in the town of Mosier in Wasco county. The site exists in the northwest corner of the intersection of Highway 30 (immediately south of the overpass over Rock Creek Road) and an unnamed private road.								
Environmental Data									
Province	Cascades								
Basin	Unknown								
Subbasin	No Data/Unknown								
Drainage Name	Columbia River								
Elevation	From 170 To 170 ft								
Aspect	Aspect: W								
Depositional Environment	• Erosional								
Soil Description	Soil consists of medium brown silty loam intermixed with angular basalt cobbles.								
Vegetation Description	Only Ponderosa Pine remain. The understory burned off during a recent wildfire.								
Culturally Significant Vegetation	• Ponderosa Pine								
Water Sources	Name	Type	Stream Type	Stream Class	Distance	Direction			
	Columbia River	River	Perennial		244 meters	0 deg			
Site Setting	The site is located at the western edge of the Columbia Basin Zone (Franklin and Dyrness, 1988). The site is situated near the top of a north-facing steep slope that is punctuated by artificial berms associated with a historical rock crushing plant. The ground surface consisted of angular cobbles in a matrix of medium brown loam and ash from a recent brushfire. Aside from the Ponderosa pine that								

		withstood the fire, the site is devoid of vegetation.	
<b>Site Description</b>			
<b>Site Description</b>	<p>Site Description and Condition: The site consists of a semi-linear scatter of domestic and automotive debris near the top of a steep cut above an unnamed private road near the intersection with Highway 30. The site was recently burned in a wildfire associated with a train derailment. Artifacts observed included the following: Ceramics: Two fragments of a porcelain teacup with a hand painted green motif with gilding. No makers mark were observed on these fragments. Glass: A single colorless screwtop manufactured by an automatic bottling machine was observed. The shoulder of the bottle was embossed with "FEDERAL LAW FORBIDS THE SALE OR RE-USE OF THIS BOTTLE," which was a federal requirement for alcohol bottles manufactured between 1935 and 1964 (Whitten 2016). The base of the bottle had a maker's mark of a Diamond inside of an "O" with the number 40 to the right of the mark indicating it was created by Owens-Illinois in 1940 (Whitten 2016). Additional glass observed at the site included a milk glass jar fragment which was possibly used for cold cream, and a single green screwtop liquor bottle finish. These fragments lacked characteristics that would make them easily datable. Metal: Cans included approximately 5-10 sanitary cans, two hole-in-top (HIT) cans, a coffee can, a keywind opened can fragment, a church key opened beverage can, and a fuel can fragment. Sanitary cans date to 1904. HIT cans were first developed in 1900 and were almost exclusively used for condensed milk by 1920 (NAASP 2007; Waechter et al. 2010). The Sanitary Can Company opened in 1904 and by 1922, it was the industry standard in canned goods (NAASP 2007). Most were burned but intact, but several were crushed beyond recognition. Additional metal artifacts were also observed at the site including two metal automotive items, a leaf spring and a screw-on oil filter. Neither had any manufacturing marks indicating date. A single piece of metal stove pipe flashing was also observed at the site. Site Function: The site is interpreted as a roadside opportunistic refuse dump of common domestic and automotive debris. The date range of diagnostic material suggests the possibility of multiple dump events. References: Franklin, Jerry F. and C.T. Dyrness. 1988. Natural Vegetation of Oregon and Washington. Oregon State University Press, Corvallis. Nevada Archaeological Site Stewardship Program (NAASP).2007. Electronic document, <a href="http://www.nevadasitestewards.org/APPENDIX_IX_Tin_Cans_a_Few_Basics.pdf">http://www.nevadasitestewards.org/APPENDIX_IX_Tin_Cans_a_Few_Basics.pdf</a>, accessed June 30, 2016. Waechter, Sharon A., Judith Marvin, and Dan Foster. 2010. How Old is "Old"? Recognizing Historical Sites and Artifacts. Electronic document, <a href="http://www.fire.ca.gov/resource_mgt/archaeology/downloads/Introduction.pdf">http://www.fire.ca.gov/resource_mgt/archaeology/downloads/Introduction.pdf</a>, accessed June 30, 2016. Whitten, David. 2016. Glass Bottle Makers and Their Marks. Electronic document, <a href="http://www.glassbottlemarks.com/">http://www.glassbottlemarks.com/</a>, accessed June 30, 2016.</p>		
<b>Dates of Use</b>	From 1900	To 1940	BP/AD/BC AD Method Historic Artifact
<b>Site Observations</b>	Present	Quantity	
	Cans	20	
	Ceramics	2	
	Bottles	2	
	Metal Other	3	
<b>Estimated Counts</b>	Prehistoric: 0    Historic: 27		
<b>Rock Art</b>			
<b>No Rock Art Specified</b>			
<b>Site Condition</b>			
<b>Visit Date</b>	06/09/2016		
<b>Site Condition</b>	Fair- Site Damage between 40% and 60%		
<b>Field Recorder</b>	David Sheldon (CH2M HILL)		
<b>Artifacts Collected?</b>	No		
<b>Activities/Work Performed</b>	The site was identified after a pedestrian survey for an area recently burned by a fire started by a train derailment. The site was documented, photographed, and GPS points were collected. No subsurface testing was conducted during these activities.		
<b>Impacts/Impact Agents</b>	<ul style="list-style-type: none"> <li>• Road</li> <li>• Fire</li> </ul>		
<b>Protective Measures Recommended</b>	This area is not actively used. no protective measures are		



recommended.

**Bibliographic References**

Author	Publication Year	Title	Agency/Organization	Primary Reference	User Agency
Whitten, David	2016	Glass Bottle Makers and their Marks	None	Yes	
Nevada Archaeological Site Stewardship Program	2007	Appendix IX. Tin Cans - A Few Basics	None	No	
Jerry F. Franklin and C.T. Dyrness	1988	Natural Vegetation of Oregon and Washington.	Oregon State University Press	Yes	
Waechter, Sharon A., Judith Marvin, and Dan Foster	2010	How Old is "Old"? Recognizing Historical Sites and Artifacts	None	No	

**Files Uploads**

- [Site Form Mosier temp01 Figure1.pdf](#)
- [Site Form Mosier temp01 Figure2.pdf](#)
- [Temp01Photographs.pdf](#)

**Form Entry Recorder:**

David Sheldon

Date: 06/29/2016



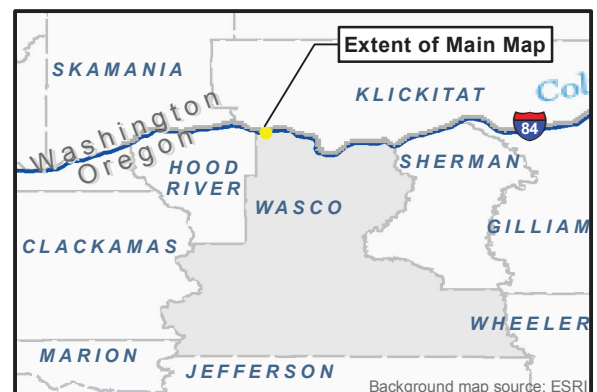
## Legend

Temp01 Site Boundary

White Salmon, OR 7.5 USGS Quad, 1994  
Township 2 N, Range 11 E, Section 2



0 100 200 300 400 500 Feet



**Figure 1**  
**Temp01 Site Boundary**  
**Overlaid on 1:24k USGS Topographic Map**

Wasco County, Oregon





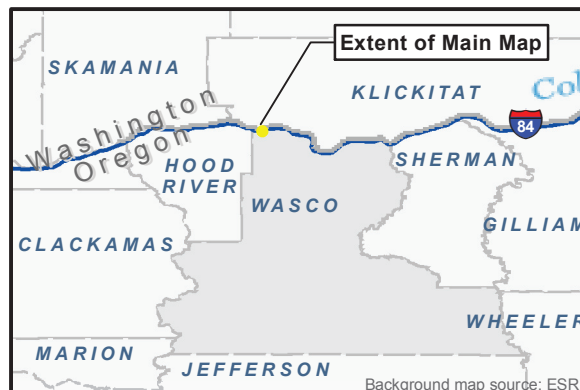
## Legend

Temp01 Site Boundary

Image Flown 2014  
Image Source: NAIP (National Agricultural Imagery Program)



0 50 100 150 200 250 Feet



**Figure 2**  
**Temp01 Site Boundary**  
**Overlaid on Modern Aerial Imagery**  
*Wasco County, Oregon*



## Temp01 Site Photographs



*Photograph 1. Overview of site. Aspect: west.*



*Photograph 2. Overview of site. Aspect: east.*





*Photograph 3. Ceramic teacup fragments with green motif and gilding.*



*Photograph 4. Colorless liquor bottle with "FEDERAL LAW FORBIDS THE SALE OR RE-USE OF THIS BOTTLE" embossed on shoulder indicating manufacture between 1935 and 1964.*





*Photograph 5. Base of bottle shown above indicating manufacture by Owens-Illinois Glass Company in 1940.*



*Photograph 6. Automotive oil filter.*



*Photograph 7. Sanitary cans, a coffee can, and a crushed*



# National Register of Historic Places Eligibility

Site Temp01 is evaluated in this section using National Park Service (NPS) Bulletin 15: *How to Apply the National Register Criteria for Evaluation* (NPS, 1997) and Bulletin 36: *Guidelines for Evaluating and Registering Archaeological Properties* (NPS, 2000). Bulletin 15 recommends five steps to evaluate whether an archaeological property is eligible for listing in the NRHP (NPS, 1997:20):

## Step 1: Categorize the Property

Temp01 is considered a historic site per the definitions outlined by the NPS (1997:4-6). Sites are defined as “the location of a significant event, a prehistoric or historic occupation or activity, or a building or a structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure (NPS, 1997:5).” Sites can potentially meet any or all of the four criteria of significance and should be evaluated against each criteria.

## Step 2: Determine Historic Context

Site Temp01 consists of a low density scatter of historic domestic and commercial debris found along the edge of a road cut for an unnamed private road near the city limits of Mosier, Oregon. Mosier was first settled in 1854 when Jonah H. Mosier constructed sawmills at the confluence of Mosier Creek and the Columbia River. In the late 1870s, the first of many commercial orchards was established in the area. The railroad, first constructed through the Columbia River Gorge in 1851, established a railroad station in Mosier. Mosier also developed a steamboat landing and later was a stop along the Columbia River Scenic Highway constructed between 1913 and 1922. With the establishment of United States Highway System in 1926, the CRSH became a part of U.S. Route 30. U.S. Route 30 was the main highway system on the Oregon side of the Columbia River Gorge until it was bypassed in the late 1950s. A 1950s era U.S. Army Corps of Engineers plat map showed that a gravel crushing facility existed between site Temp01 and U.S. Route 30. In 1957, Interstate 84 was constructed parallel to the Columbia River and an overpass and interchange was constructed in the vicinity of site Temp01. Mosier itself was incorporated in 1914 and enjoyed modest growth.

Diagnostic artifacts date between 1900 and 1940. The General Land Office (GLO) maps for the area date between 1860 and 1893 and show no road at the location of the site. Aerial imagery dating to 1930 again shows no road cut at this location; however a small orchard tract is located in close vicinity to the south of the site. This evidence suggests that site Temp01 may not be associated with the road cut.

### Level of Significance

Based on the historic context discussion above, the most appropriate context within which to evaluate Site Temp01 would be the local context.

### Period of Significance

Site Temp01 contains diagnostic artifacts that date the site from as early as 1900 to at least 1940. Background research suggests that there were no permanent residences at the location of site Temp01 and that this scatter of debris represents a roadside opportunistic dump during this period.

## Significant Themes

Site Temp01 falls within the following areas of significance, per the categories outlined by the NPS (1997:8): Archeology (historic-Non-aboriginal), Commerce, Industry, Social History, and Transportation.

## Step 3: Determine Significance

The use of National Historic Preservation Act criteria A, B, and C for archaeological sites is appropriate in limited circumstances, compared to criterion D, which is typically used to evaluate archaeological resources. While criterion D only requires the site to have the potential to yield information important to prehistory or history, the site must *demonstrate* its ability to convey its significance under criteria A, B, and C (NPS, 2000:22).

### Criterion A

Simply being associated with historic events or trends is not necessarily enough to qualify a site under Criterion A (NPS, 2000:22). To qualify, a site must demonstrate a strong association with a specific event or a chain of events that contribute to the broad patterns of our history. Although historic research was conducted and historic maps were inspected, no links could be established between Site Temp01 and any known historic events or trends. To assess the integrity of Site Temp01 under criterion A, “a property must convey its historic significance” through “well-preserved features, artifacts, and intra-site patterning in order to illustrate a specific event or pattern of events in history (NPS, 2000:22).” Although Site Temp01 contains historic-era artifacts, the lack of features that convey any link between historic events or trends. As such, Site Temp01 does not meet the requirements of Criterion A.

### Criterion B

Under Criterion B, the persons associated with the property must be *individually* significant within a historic context. To establish ownership of the parcel, research was conducted at the Wasco County Assessor website and GLO records were consulted. Site Temp01 is located on a parcel currently owned by the Oregon Department of Transportation (ODOT). The GLO records indicate that the parcel was part of a 155 acre lot initially purchased by Milton Harlan, a publisher of a local newspaper *The Pioneer* (FamilySearch.org, 2016), in 1897. While Milton Harlan, was possibly a person of local significance, additional research failed to yield information that would support that significance. Furthermore, there is no direct link between the refuse scatter and Harlan. As such, there is no strong association with a significant person. Accordingly, Site Temp01 does not meet the requirements of Criterion B.

### Criterion C

Under Criterion C, an eligible property must contain distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction evident. Site Temp01 is a refuse scatter lacking construction or any distinctive characteristics. As such, none of the remaining physical features meet the requirements of Criterion C.

### Criterion D

The site’s only remaining potential for significance lay in Criterion D, specifically, intact buried deposits of cultural material. Site Temp01 contained several diagnostic objects on the surface. The surface of the site was comprised of rocky basalt cobbles and lacks any characteristics that would suggest buried features associated with the site. Diagnostic artifacts were recorded on an Oregon State Archaeological site form. As such, the information potential from the site was largely exhausted from the analysis of the

artifacts observed during excavation. Therefore, Site Temp01 does not meet the requirements described in Criterion D.

## Step 4: Determine if Properties Represent Type Usually Excluded from National Register

Typically, religious properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties achieving significance within the past 50 years are excluded from the NRHP (NPS, 1997:25). Site Temp01 does not fall within any of these categories and will not be compared to the Criteria Considerations in addition to meeting the regular requirements.

## Step 5: Determine Whether Property Retains Integrity

The fifth step is to determine if Site Temp01 retains the necessary aspects of integrity.

### Location

Location is defined as “the place where a historic property was constructed or the place where a historic event occurred (NPS, 2000:36).” Site Temp01 is located adjacent to the edge of a road cut. Given that the site contains diagnostic artifacts older than construction of the road and associated cut, it is possible the site was partially obliterated during road construction; however there is no evidence that the site has been redeposited. As such, Site Temp01 retains integrity of location.

### Design

Integrity of design is defined as “the combination of elements that create the form, plan, space, structure, and style of a property (NPS, 2000:36).” As Site Temp01 consists of a scatter of debris with no apparent intentional deposition, it lacks the combination of elements described above and therefore lacks integrity of design.

### Setting

Integrity of setting is defined as the physical environment of a historic property, including topographic features, open space, viewshed, landscape, vegetation, and artificial features (NPS, 2000:36). The setting of Site Temp01 has not changed substantially since the period of its significance. As such, Site Temp01 retains integrity of setting.

### Materials

Materials are “the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property (NPS, 2000:36).” Of the objects observed during excavation, chronologically diagnostic artifacts dated between 1900 and 1940. It is not possible to determine if additional objects have been removed from the site. As such, Site Temp01 retains integrity of materials.

### Workmanship

Workmanship is defined as “the physical evidence of the labor and skill of a particular culture or people during any given period in history (NPS, 2000:36).” As Site Temp01 is a debris scatter, there is little evidence of workmanship. As such, Site Temp01 does not retain integrity of workmanship.



## Feeling

The aspect of feeling is defined as “A property’s expression of the aesthetic or historic sense of a particular period of time (NPS, 2000: 36).” The opportunistic dumping of a scatter of debris, albeit of a specific era, is a common activity and is representative of an aesthetic or historic sense of a particular period of time. As such, Site Temp01, does not retain integrity of feeling.

## Association

The aspect of association is defined as “the direct link between an important historical event or person and a historic property (NPS, 2000:36).” As stated in the Criterion A evaluation section, Site Temp01 cannot be directly linked to an important historic event (or series of events). No information could be located on any of the actual owners of the parcel during the period of significance. As such, Site Temp01 does not retain integrity of association.

## Recommendation

The artifact and historic map analysis indicates that the site is representative of repeated opportunistic dump events prior to, and after, road construction. The artifacts themselves were common to residential areas throughout the area. The information potential of the site is largely captured in the historical research and recordation provided in the site record. While Site Temp01 retains integrity of location, setting, and materials; it lacks in the remaining aspects of integrity (design, workmanship, feeling, and association) that are necessary for achieving significance against any of the NRHP criteria. Site Temp01 does not possess the physical features necessary to convey the aspects of significance identified in the historic context with which it is associated. Therefore, the site is recommended not eligible for listing in the NRHP.

## References

Familysearch.org. 2016. Thomas Harlan Obituary. Electronic document, <https://familysearch.org/photos/artifacts/17352141>, accessed Jul 7, 2016.

National Park Service (NPS). 1997. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. United States Department of the Interior, National Park Service, National Register, History and Education. Finalized by Patrick W. Andrus, edited by Rebecca H. Shrimpton. 1990, revised 1997.

National Park Service (NPS). 2000. *National Register Bulletin 36: Guidelines for Evaluating and Registering Archaeological Properties*. United States Department of the Interior, National Park Service, National Register, History and Education. Finalized by Barbara Little, Erika Martin Seibert, Jan Townsend, John H. Sprinkle, Jr., and John Knoerl.

## State of Oregon Archaeological Site Record

Administrative Data									
<b>Smithsonian Number:</b>					<b>Alt Site Nbrs:</b>	Mosier Concrete Footings			
<b>Site Name:</b>	Mosier Rock Crusher Footings				<b>Form Type:</b>	New			
<b>Managing Office*:</b>					<b>County:</b>	Wasco			
<b>Owners(s):</b>	Municipal (describe)								
<b>Ownership/Management Notes:</b>	Parcel owned by City of Mosier. Environmental Protection Agency is lead federal agency. EPA has delegated cultural oversight to the United States Forest Service (USFS) Columbia Gorge National Scenic Area archaeologist.								
<b>National Register Status:</b>	Status	Role	Date	Author					
	Not Eligible	Fieldworker	07/10/2016	R.McClintock					
Site Identification									
<b>Site Type</b>	• Other								
<b>Features*:</b>	• Other • Tailings	<b>Cultural Period(s)*:</b>			• Early 20th Century (1900-1930)				
<b>Dimensions:</b>	<b>Length</b>	30	<b>Width</b>	20	<b>Units</b>	Meters	<b>Area</b>	600 Sq m	
<b>Depth of Cultural Deposits</b>	0 cm								
<b>General Age</b>	Historic								
Location Data									
<b>Legal Description:</b>	Township	Range	Section	¼	¼	¼	DLC	Meridian	
	2 N	11 E	2	SW	NE	NE		Willamette	
<b>UTM Coordinates</b>	Type	East	North	Method		Zone	Datum		
	On Boundary	433435	2233543	GPS < 1m		10	27		
<b>Map References</b>	Map Name/Year				Revision Year				
	WHITE SALMON 7'				1994				
<b>Access Description</b>	These large concrete footings are located directly north of the city of Mosier, Oregon on the south side of the Historic Columbia River Highway (HCRH), also known as Highway 30, and locally, Rock Creek Road. The footings can be seen approximately 350 feet east of the Mosier Waste Water Treatment Plant.								
Environmental Data									
<b>Province</b>	Cascades								
<b>Basin</b>	Other								
<b>Subbasin</b>	OTHER								
<b>Drainage Name</b>	Rock Creek								
<b>Elevation</b>	From 125 To 125 ft								
<b>Aspect</b>	Aspect: N								
<b>Depositional Environment</b>	• Alluvial								
<b>Soil Description</b>	Soils are mixed and mottled alluvium as a result of disturbance from historic construction.								
<b>Vegetation Description</b>	none								
<b>Culturally Significant Vegetation</b>									
<b>Water Sources</b>	Name	Type	Stream Type	Stream Class	Distance	Direction			
	Rock Creek	Stream	Perennial	1	170 meters	270 deg			
	The site is located on the north edge of the old Columbia River Highway on the south side of Mosier, Oregon and is situated at the								

<b>Site Setting</b>	base of a small, but steep hill rising to the current Highway 30. It is surrounded by piled tailings of crushed rock and is in a grove of medium sized pines (many now burned).		
<b>Site Description</b>			
<b>Site Description</b>	<p>The site consists of 5 large flat topped concrete footings (Features 1-5 in Figure 4). With the exception of a few large 1 3/8" carriage bolts protruding from each, the features are entirely concrete, with no other remaining construction materials. All of the features have rectangular footprints and vary in dimension. The concrete features are situated directly adjacent to the Old Columbia River Highway in a grove of small to medium sized pines. Wildfire has burned through this area, and burned away most surface vegetation. Surrounding the concrete features are many large piles of crushed rock, creating an irregular ground surface that obscures the bases of the each feature. A considerable amount of modern historic debris, including beer cans, sanitary cans, and a discarded automotive transmission are scattered about the general area. The concrete is crumbling and many edges are broken and scattered around the bases of the features. The Fourth Biennial Report of the Oregon Highway Commission (December 1, 1918 to November 30, 1920) identifies the source of crushed rock used in the Hood River to Mosier Macadam as the Pacific Bridge Company's crushing plant at Mosier. The Pacific Bridge Company was established in California in 1869 and opened a Portland office in 1880 (Escocorp.com/Inthebeginning). The Pacific Bridge Company later constructed the Morrison Bridge in Portland and was one of several contractor forming Six Companies, a consortium of companies that won work on the construction of Hoover Dam (Stevens 1988). The dimensions of the footings are as follows: Feature 1: 12 feet long x 7 feet wide x 11 feet high. This tallest feature is trapezoidal in shape. The feature tapers slightly as it ascends and exhibits a small protruding platform on its north face near the top. This small platform exhibits two carriage bolts. On the feature's south side is a narrow groove, approximately 8" wide by 4 " deep running from the apex to approximately halfway down the structure. Feature 2: 12 feet long x 27 inches thick x 6 feet 6 inches high. Approximately 2 feet from its east edge is a rectangular cut-out measuring 2 feet wide by 2 feet deep. Four carriage bolts protrude from the top of this feature and three protruding from its south side. Feature 3: 12 feet long x 30 inches thick x 5 feet 5 inches high. One carriage bolt protrudes from its top and two protrude from its north side. Dirt and rock are piled on the south side of this feature, completely covering its south face. Feature 4: 12 feet long x 27 inches thick x 6 feet 6 inches high. This feature appears to be like Feature 2, but with the cut-out on its west side. It also exhibit two additional footings at the base of its south side. One carriage bolt protrudes from its top. These are 16 inches long x 14 inches wide x 18 inches high. A 3 inch pipe protrudes from its southeast corner. Feature 5: 12 feet long x 33 inches thick x 6 feet 2 inches high. One carriage bolt protrudes from its top. A bent 3 inch pipe protrudes from the northeast corner of the feature. Dirt and rock are piled on the south side of this feature completely covering its south face.</p>		
<b>Dates of Use</b>	From 1880	To 0	BP/AD/BC AD Method Historic Record
<b>Site Observations</b>	Present N/A	Quantity 0	
<b>Estimated Counts</b>	Prehistoric: 0    Historic: 0		
<b>Rock Art</b>			
<b>No Rock Art Specified</b>			
<b>Site Condition</b>			
<b>Visit Date</b>	06/14/2016		
<b>Site Condition</b>	Destroyed- Site Damage greater than 95%		
<b>Field Recorder</b>	Robin McClintock, Dave Sheldon, CH2M HILL Engineers, Inc.		
<b>Artifacts Collected?</b>	No		
<b>Activities/Work Performed</b>	The site was surveyed, mapped, and photographed. Background research of old maps was performed.		
<b>Impacts/Impact Agents</b>	<ul style="list-style-type: none"> <li>• Road</li> <li>• Fire</li> <li>• Other</li> </ul>		
<b>Protective Measures Recommended</b>	None proposed		
<b>Bibliographic References</b>			

Author	Publication Year	Title	Agency/Organization	Primary Reference	User Agency
Stevens, Joseph	1988	Hoover Dam: An American Adventure. New York City: Free Press		Yes	
Files Uploads					
<ul style="list-style-type: none"><li>• <a href="#">Site Form Mosier temp02 Figure1.pdf</a></li><li>• <a href="#">Site Form Mosier temp02 Figure2.pdf</a></li><li>• <a href="#">Site Form Mosier temp01 02 Figure3.pdf</a></li><li>• <a href="#">Crusherphotopage.docx</a></li><li>• <a href="#">Site Form Mosier temp02 Figure4.pdf</a></li></ul>					
Form Entry Recorder:		Robin McClintock	Date: 06/30/2016		



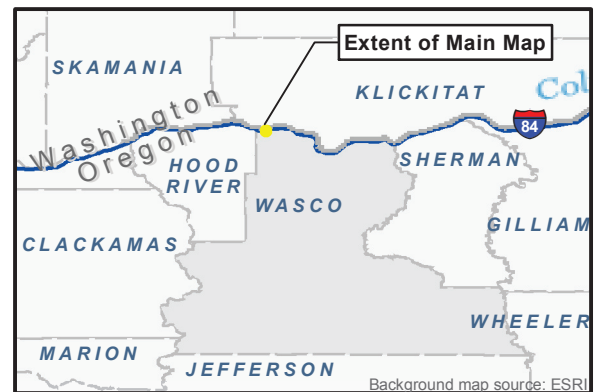
### Legend

Temp02 Site Boundary

White Salmon, OR 7.5 USGS Quad, 1994  
Township 2 N, Range 11 E, Section 2



0 100 200 300 400 500 Feet



**Figure 1**  
**Temp02 Site Boundary**  
**Overlaid on 1:24k USGS Topographic Map**  
*Wasco County, Oregon*





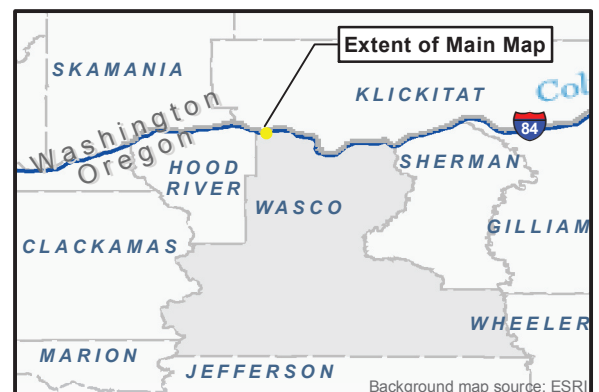
## Legend

Temp02 Site Boundary

Image Flown 2014  
Image Source: NAIP (National Agricultural Imagery Program)

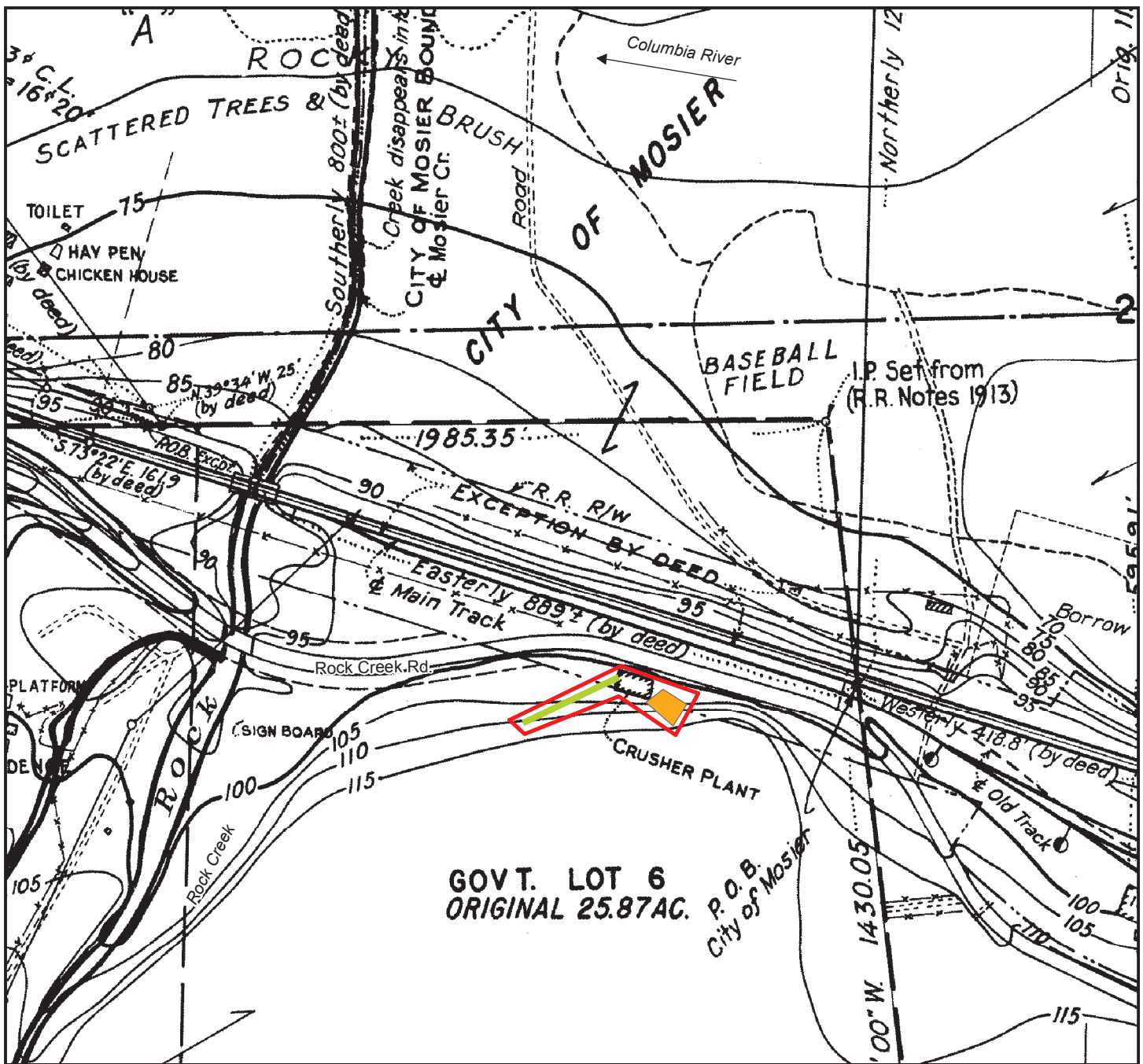


0 50 100 150 200 250 Feet



**Figure 2**  
**Temp02 Site Boundary**  
**Overlaid on Modern Aerial Imagery**

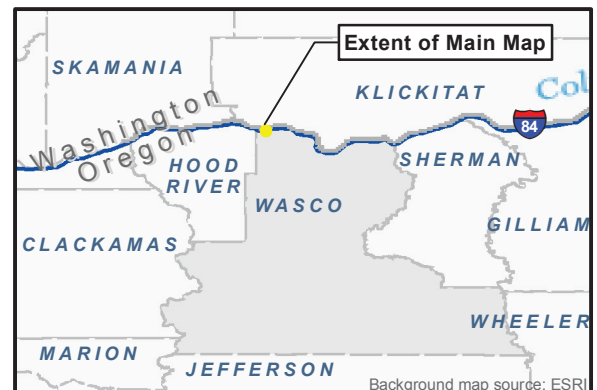
Wasco County, Oregon



### Legend

- Temp02 Site Boundary
- Rock Crusher Structural Remains
- Linear Ballast Pile

1936 Plat Map  
Source: USACE (United States Army Corps of Engineers)



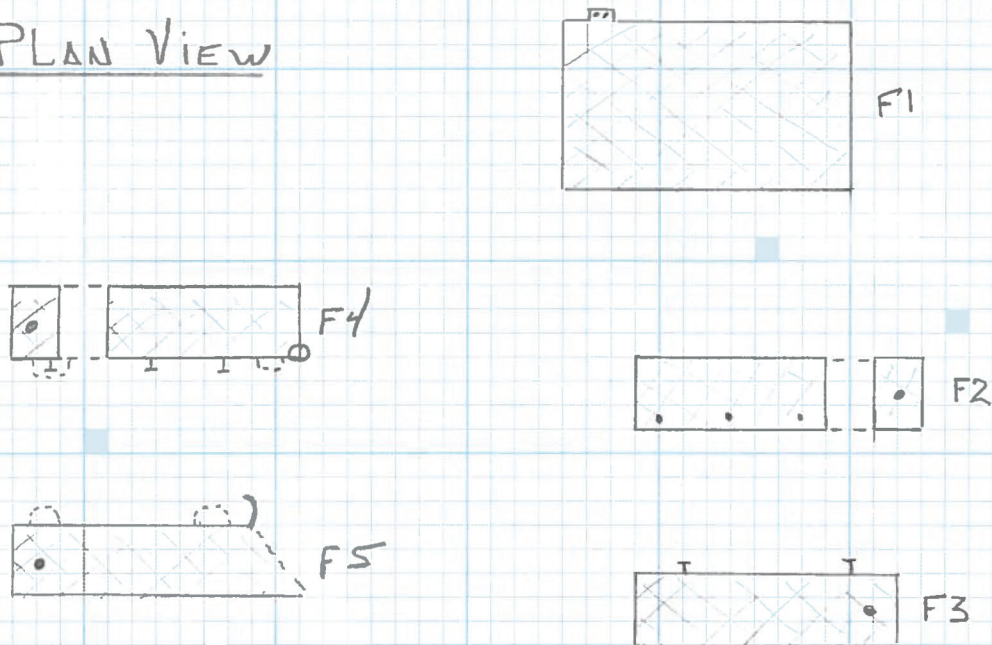
**Figure 3**  
**Temp02 Site Boundary**  
**Overlaid on 1936 USACE Plat Map**

Wasco County, Oregon



# HISTORIC COLUMBIA RIVER HIGHWAY (Highway 30)

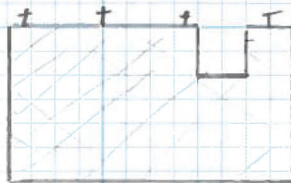
## PLAN VIEW



## PROFILE VIEW F2

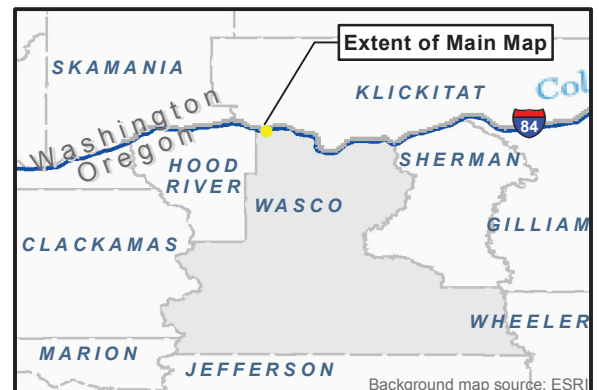
### LEGEND

- 4 Feet
- CONCRETE FEATURE
- T > 1 3/8" CARBIDE BOLTS
- 9 > 3" Pipe



### Legend

Sketch of Temp02 Structure



**Figure 4**  
**Temp02 Strcuture Description**  
**Overlaid on Modern Aerial Imagery**

Wasco County, Oregon





Overview viewing southeast



Feature 3 viewing west



Feature 1 viewing west



Feature 4 viewing southeast



Feature 2 viewing southwest



Feature 5 viewing southeast



# National Register of Historic Places Eligibility

The Mosier Rock Crusher site (Temp02) is evaluated in this section using National Park Service (NPS) Bulletin 15: *How to Apply the National Register Criteria for Evaluation* (NPS, 1997) and Bulletin 36: *Guidelines for Evaluating and Registering Archaeological Properties* (NPS, 2000). Bulletin 15 recommends five steps to evaluate whether an archaeological property is eligible for listing in the NRHP (NPS, 1997:20):

## Step 1: Categorize the Property

The Mosier Crusher Plant footings are the remnant of a mechanical rock crusher that has had all of its mechanical elements removed. It has lost the majority of its basic structural elements, and therefore is considered “in ruin.” Structures “in ruin” are considered a “site” per the definitions outlined by the NPS (1997:4-6). Sites are defined as “the location of a significant event, a prehistoric or historic occupation or activity, or a building or a structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure (NPS, 1997:5).” Sites can potentially meet any or all of the four criteria of significance and should be evaluated against each criteria.

## Step 2: Determine Historic Context

The Mosier Crusher Plant site consists of the concrete footings of a mechanical rock crusher associated with construction of the Historic Columbia River Highway (Highway 30). As discussed in the background research for this site record, the Pacific Bridge Company operated this Rock Crusher and provided rock for construction of the macadam for the old highway between 1918 and 1920. The Pacific Bridge Company was also involved in construction of the Morrison Bridge in Portland, Oregon and in construction of the Hoover Dam. The Mosier Crusher Plant is shown on U.S. Army Corps of Engineers drawings dated 1936.

### Level of Significance

Based on the historic context discussion above, the most appropriate context within which to evaluate Site 35MU264 would be the state context.

### Period of Significance

The site was created sometime after the early 1880s and was identified on U.S. Army Corps of Engineers drawing in 1936 and presumably the crusher machinery was still in place at that time. Thus, the period of significance is from the early 1880s until the 1930s.

### Significant Themes

The Mosier Crusher Plant falls within the following areas of significance, per the categories outlined by the NPS (1997:8): Commerce, Economics, and Industry.

## Step 3: Determine Significance

The use of National Historic Preservation Act criteria A, B, and C for archaeological sites is appropriate in limited circumstances, compared to criterion D, which is typically used to evaluate archaeological resources. While criterion D only requires the site to have the potential to yield information important



to prehistory or history, the site must *demonstrate* its ability to convey its significance under criteria A, B, and C (NPS, 2000:22).

## Criterion A

Association with historic events or trends is not necessarily enough to qualify a site under Criterion A (NPS, 2000:22). To qualify, a site must demonstrate a strong association with a specific event or a chain of events that contribute to the broad patterns of our history. The Mosier Crusher plant was associated with construction of the Columbia River Highway which is recognized as an engineering and civic achievement. The fame and success of the highway contributed to the economic development of the greater Portland metropolitan area and the State of Oregon that transformed it into a regional economic hub. However, the Mosier Crusher Plant itself was likely one of many sources providing raw materials for construction of the highway and is not known to possess any distinguishing characteristics. To assess the integrity under criterion A, “a property must convey its historic significance” through “well-preserved features, artifacts, and intra-site patterning in order to illustrate a specific event or pattern of events in history (NPS, 2000:22).” Although portions of the Mosier Crusher plant’s concrete footings remain, the removal of the machinery and other intact features that convey the building’s general usage, and relative lack of artifacts dating to the period of occupation, severely diminish the integrity of the Mosier Crusher Plant site. As such, the site does not meet the requirements of Criterion A.

## Criterion B

Under Criterion B, the site was owned and operated by Pacific Bridge Company. None of the owners of the company are known to be a significant person per the definitions outlined in Bulletin 15 (NPS, 1997:14). As such, there is no strong association with a significant person. Thus, the Crusher Plant site does not meet the requirements of Criterion B.

## Criterion C

Under Criterion C, an eligible property must contain distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction evident. The Crusher Plant site is the demolished remnants of a building. The remaining elements are nondescript and lack any of the distinctive characteristics listed above. As such, none of the remaining physical features meet the requirements of Criterion C.

## Criterion D

The site’s only remaining potential for significance lay in Criterion D, specifically, intact buried deposits of cultural material. While refuse dating to the 1970s to more modern debris was identified above the demolished structure, no artifacts were identified that definitively dated to the period of significance, as determined by historical research. No intact, stratified deposits of cultural materials or features were identified during this investigation. Therefore, the Crusher Plant site does not meet the requirements described in Criterion D.

## Step 4: Determine if Properties Represent Type Usually Excluded from National Register

Typically, religious properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties achieving significance within the past 50 years are excluded

from the NRHP (NPS, 1997:25). The Crusher Plant site does not fall within any of these categories and will not be compared to the Criteria Considerations in addition to meeting the regular requirements.

## Step 5: Determine Whether Property Retains Integrity

The fifth step is to determine if the Crusher Plant site retains the necessary aspects of integrity.

### Location

Location is defined as “the place where a historic property was constructed or the place where a historic event occurred (NPS, 2000:36).” The Mosier Crusher Plant was demolished in the same place it was constructed. The machinery was removed and but the remaining concrete features retain their original location. As such, the site retains integrity of location.

### Design

Integrity of design is defined as “the combination of elements that create the form, plan, space, structure, and style of a property (NPS, 2000:36).” As the site is the ruined remnants of machinery with only portions of the concrete footings partially intact, it lacks the combination of elements described above and therefore lacks integrity of design.

### Setting

Integrity of setting is defined as the physical environment of a historic property, including topographic features, open space, viewshed, landscape, vegetation, and artificial features (NPS, 2000:36). The setting of the Crusher Plant has not changed substantially since the period of its significance. The machinery has been removed but the general landscape adjacent to the Columbia River Highway and the rail line remains substantively unchanged. As such, the Crusher Plant site retains integrity of setting.

### Materials

Materials are “the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property (NPS, 2000:36).” No artifacts or materials dating to period of significant were observed on the site. As such, the Crusher Plant site does not retain integrity of materials.

### Workmanship

Workmanship is defined as “the physical evidence of the labor and skill of a particular culture or people during any given period in history (NPS, 2000:36).” As the site is the ruined concrete remnants of a structure with only portions of the foundation remaining, there is little evidence of workmanship. As such, the Mosier Crusher Plant site does not retain integrity of workmanship.

### Feeling

The aspect of feeling is defined as “A property’s expression of the aesthetic or historic sense of a particular period of time (NPS, 2000: 36).” Because the function of the site was as a mechanical rock crusher and all the mechanical portions of the site have been removed, expression of the aesthetic, or its period of occupation could not be detected and thus the Mosier Crusher Plant site does not retain integrity of feeling.

### Association

The aspect of association is defined as “the direct link between an important historical event or person and a historic property (NPS, 2000:36).” As stated in the Criterion A evaluation section, the site can be

directly linked to an important historic event (or series of event) but cannot convey its association with well-preserved features, artifacts or intra-site patterning. No important person is associated with the site. As such, the Mosier Crusher Plant site does not retain integrity of association.

## Recommendation

Historic background research indicates that the site was likely used as a source for materials for construction of the Columbia River Highway. Although the site retains integrity of location and setting, it lacks integrity of design, materials, or workmanship that are necessary for inclusion in the NRHP. The Mosier Crusher Plant site does not possess the physical features necessary to convey the aspects of significance identified in the historic context with which it is associated. The information potential of the site is largely captured in the historical research and recordation provided in the site record. The site is recommended not eligible for listing in the NRHP.

# References

National Park Service (NPS). 1997. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. United States Department of the Interior, National Park Service, National Register, History and Education. Finalized by Patrick W. Andrus, edited by Rebecca H. Shrimpton. 1990, revised 1997.

National Park Service (NPS). 2000. *National Register Bulletin 36: Guidelines for Evaluating and Registering Archaeological Properties*. United States Department of the Interior, National Park Service, National Register, History and Education. Finalized by Barbara Little, Erika Martin Seibert, Jan Townsend, John H. Sprinkle, Jr., and John Knoerl.



Appendix F  
Finding of Effect for Historic  
Columbia River Highway

# Union Pacific Railroad Mosier Derailment Emergency Response City of Mosier, Oregon: Finding of Effect for Historic Columbia River Highway

*Prepared for*

Union Pacific Railroad

August 2, 2016



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# Historic Columbia River Highway

The portion of the Historic Columbia River Highway (HCRH) in the Area of Effect (AOE) is part of Segment 3 of the HCRH National Historic Landmark (NHL) district. This small branch of the HCRH, formerly part of the Columbia River Highway (Highway 30), is now known as Rock Creek Road. In compliance with Section VI(D) of the “Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan,” the emergency response project was evaluated to determine if it had any effects on the HCRH. The assessment was performed by Lori Durio Price, CH2M Secretary of the Interior-qualified architectural historian.

As a result of the June 2016 derailment, the City of Mosier’s wastewater treatment plant’s (WWTP) influent wastewater conveyance pipeline (influent pipeline) and associated manhole required replacement during the derailment response. The influent line was located underneath the HCRH. The alignment of the HCRH cannot be changed—no space is available to the south and the Union Pacific Railroad right-of-way is to the north. Therefore, in order to remove and replace the influent pipeline and associated manhole, Union Pacific Railroad excavated and removed portions of the roadway to gain access to the existing influent pipeline. Excavation consisted of saw-cutting the existing HCRH asphalt within the AOE and excavating a trench approximately 3 to 4 feet deep and approximately 4 feet wide. Because portions of the HCRH were removed, roadway repairs were required. Following removal of the influent line and installation of the replacement pipe, the HCRH was repaired to match conditions existing prior to the derailment. The area was then repaved with a smooth asphalt overlay and restriped. Excavation was monitored by CH2M’s Archeologist. The concrete bollard and cable fencing was replaced in-kind to return the site to prior conditions and to accommodate UPRR and City of Moser safety and access requirements.

## Finding of Effect

The short segment of roadway in the AOE (fewer than 1,100 feet) is a small component of a 51-mile long linear resource. The area excavated and repaired is less than that. Roadways are utilitarian resources routinely maintained and altered to sustain their function. The HCRH has been repaved on numerous occasions throughout its 100 years of existence. Replacing the influent pipeline and manhole cover, and repaving the surface would not alter the linear resource’s use or change the characteristics of the historic roadway that contribute to its historic significance. The roadway’s alignment, location, and use would remain intact. Its appearance would have only a minor change, and overall, any visual effects from the derailment or the emergency response would not result in an impact to the integrity of design, location, feeling, setting, and association of the HCRH, and would not significantly diminish the roadway’s integrity of materials or workmanship. Photographs 1-3 show the work in progress on the HCRH in the AOE, and Photograph 4 shows the HCRH after repaving. Figure 1 illustrates the area where the paving occurred on the HCRH and the location of the sewer line and manhole cover.

The significance of the HCRH is found in its alignment, its setting, and its continued use as a transportation route. The effects from the emergency response would not jeopardize the HCRH’s role as a significant transportation route; rather, the repairs would have a beneficial effect by restoring the roadway, thereby prolonging its useful life and allowing it to continue to carry on its historic function as a transportation resource. Therefore, the recommended finding of effect is that the Mosier Derailment Emergency Response would have no adverse effect on the HCRH NHL.

## Conclusion

A small portion of Segment 3 of the HCRH NHL is located in the AOE. Replacement of an influent pipeline, manhole cover, road bed, and repaving of the roadway surface would cause little change to the historic roadway. The recommended finding of effect is that the Mosier Derailment Emergency Response would have no adverse effect on the HCRH NHL.



Photograph 1. View to the west showing HCRH and railroad during emergency response action.



Photograph 2. View to the west showing HCRH during emergency response action – trench is at left. Photo taken from under Hwy 30 overpass.



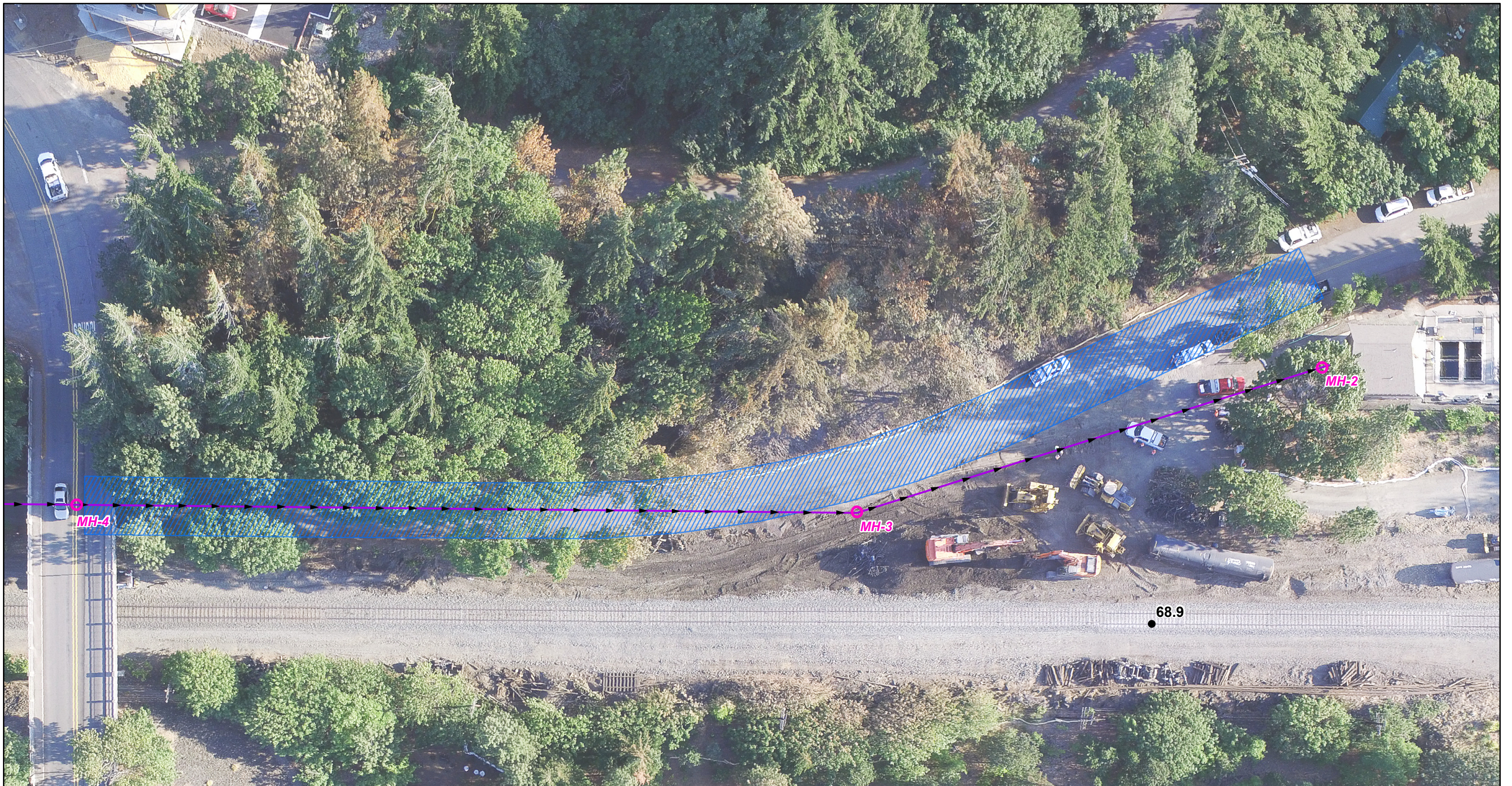


Photograph 3. View showing east end of HCRH trenching during emergency response action



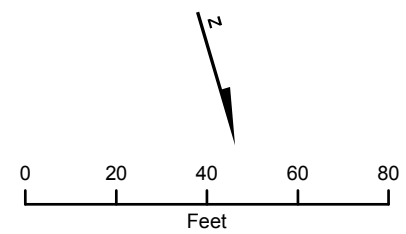
Photograph 4. View to east showing HCRH after repaving (Hwy 30 overpass visible at left)





# LEGEND

- Milepost
- Manhole
- ➔ Influent Pipeline
- ▨ Extent of Pavement Resurfacing



**FIGURE 1**  
**EXTENT OF ROADWAY REPAIR**  
 CITY OF MOSIER  
 UNION PACIFIC RAILROAD  
 WASCO COUNTY, OREGON