

A photograph of a rocky streambed in a forest. The streambed is filled with large, smooth, grey rocks of various sizes. The water is not clearly visible, but the rocks are arranged in a way that suggests a flow. The background is a dense forest with green foliage and some bare branches. The text "Ah Heng Mining Complex" is overlaid in the center in a large, bold, black font.

Ah Heng Mining Complex

A Malheur National Forest Virtual Tour

Introduction: Types of Gold Mining

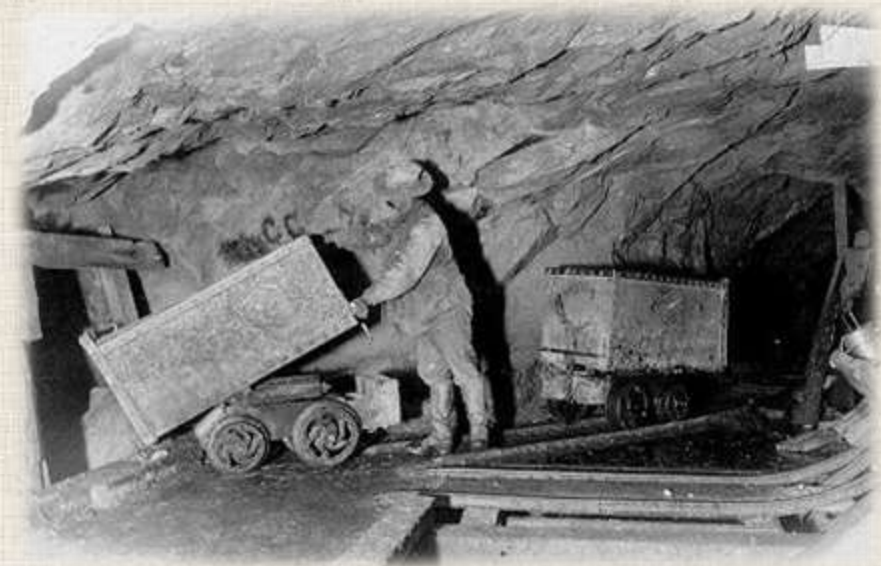
Placer vs. Hard Rock (Quartz, Lode) Mining

There are several different ways to mine for gold. The following is a brief description of placer and hard rock mining. The remainder of this virtual tour focuses on the placer mining done by the Ah Heng Company at a leased mining claim near Big Creek.

Placer Mining- using water to excavate, transport, and recover heavy minerals from alluvial deposits. These deposits consist of minerals that have eroded from their parent lode into a variety of natural contexts among the sedimentary formations. Placer deposits are generally free from parent material and do not require additional refinement when they are separated from the other sediments.

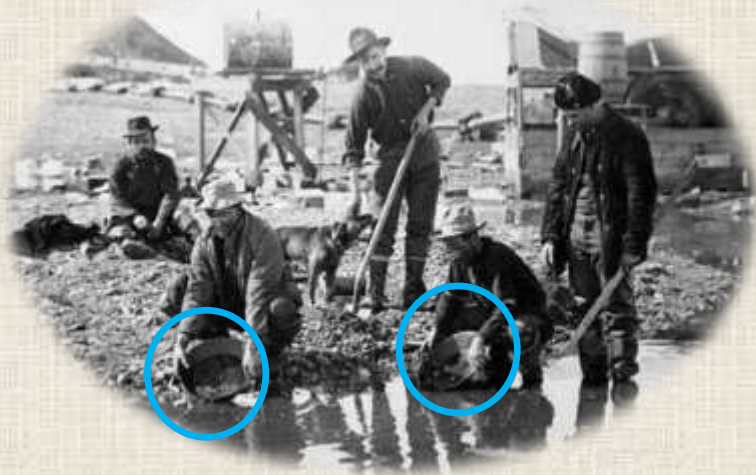


Hard Rock Mining- the underground excavation of lode deposits. A lode deposit is the original mineral occurrence within a fissure through native rock, also known as a vein or ledge. In order to access these minerals, miners must excavate either a decline (ramp), vertical shaft, or an adit. These type of claims were a longer term investment because of the additional labor and equipment needed to extract and refine the ore and the need for transportation infrastructure to ship the refined ore to smelting facilities.



Placer Mining Technology

1. The first step in placer mining is **prospecting** for rich gold deposits, usually with shovel, pick and **pans**.



2. After gold was discovered through prospecting, more complex equipment and techniques were employed to recover gold buried in the alluvial deposits



Rocker – a rocking box which allowed recovery of gold with small amounts of water and agitation.



Long Toms and Sluice Boxes- Trough-like boxes with water flowing over riffles to trap the gold.



Hydraulic Mining - aka hydraulicking, uses high-pressure jets of water to dislodge and move gold bearing deposits to a series of sluice boxes. Used in the largest placer mines.

Mining Terminology:

Features Associated with Placer Mining Found at Big Creek:

Ditches– Ditches transport water throughout a placer mine. The *lateral ditch* carries water to the mine from a water source, sometimes several miles away. The *head race* carries water from the lateral to the wash pits or placer cuts. The *tail race* carries water and sludge away from the bottom (tail) of the mine.

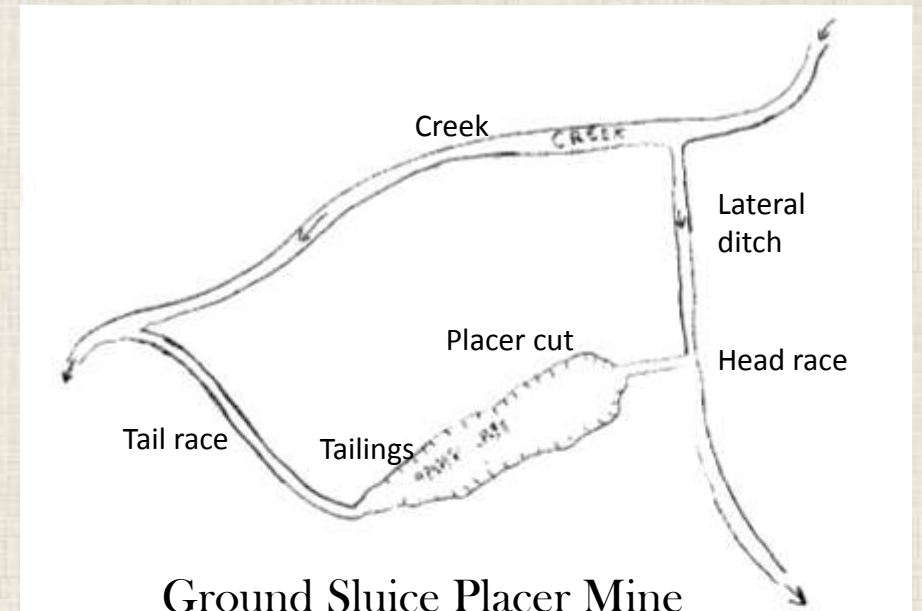
Placer Cuts and Wash Pits – Where water has cut into the hillside to wash gold bearing sediment into the sluice system.

Dams/Reservoirs – Allowed for sufficient water to be saved up to allow mining during drier months. Larger dams or reservoirs were built for hydraulic mining to build sufficient water pressure.

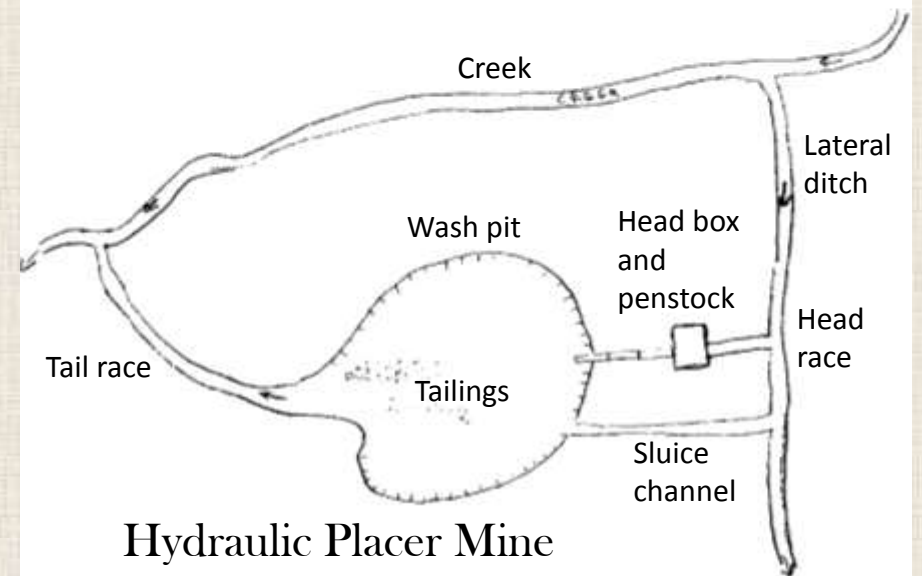
Penstock – Metal pipe used to bring water from a head box to the large nozzles used in hydraulic mining.

Tailings – Waste rock and gravel expelled from the end of a placer mining system.

Stacked Tailings–Tailings carefully stacked to form walls for a variety of reasons: leveling the ground for housing/tents; corralling debris; and separating mine claims.



Ground Sluice Placer Mine

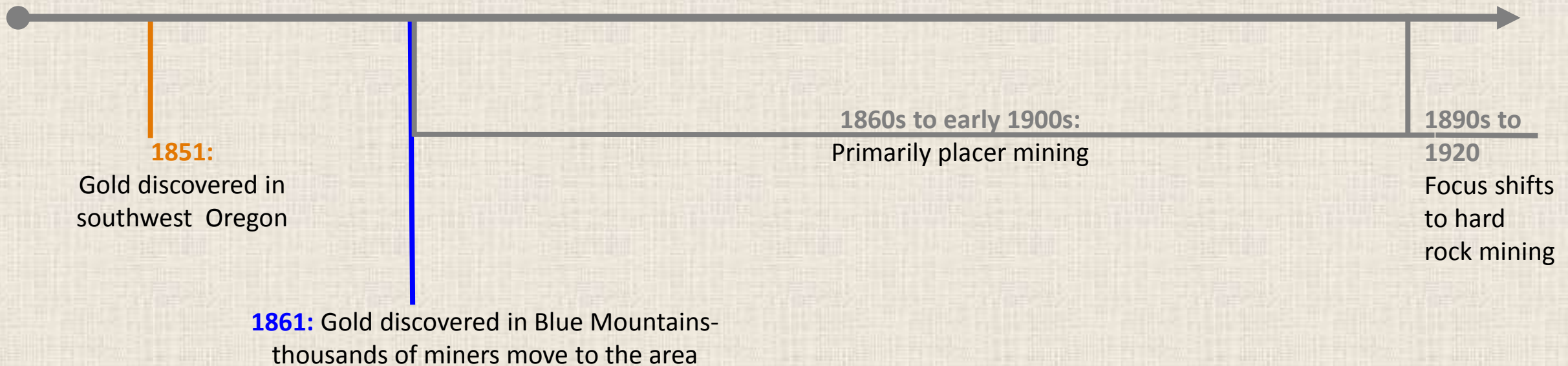
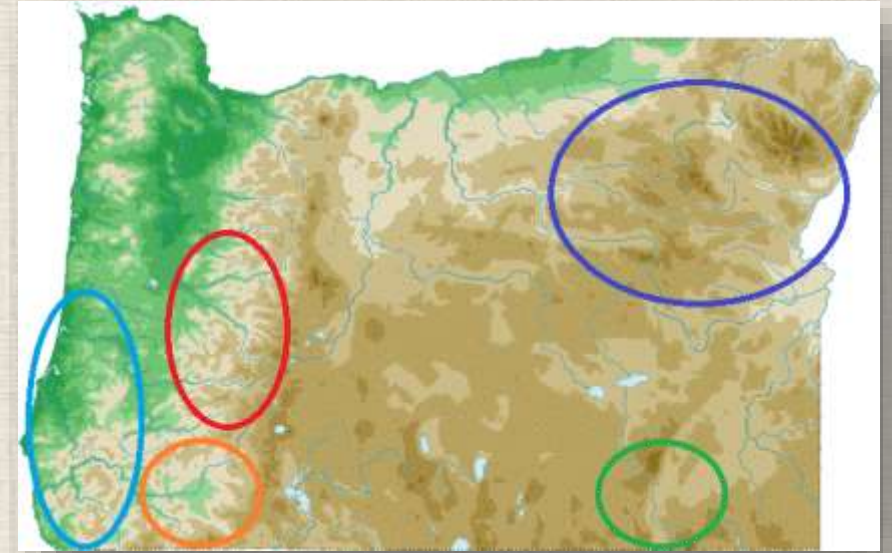


Hydraulic Placer Mine

Mining in Oregon

Oregon has several gold-bearing areas over different regions:

1. **Along the coast** = sands with fine gold
2. **Jackson and Josephine counties** = possibly the extension of the California gold fields
3. **Calapooya Mountains** = gold and silver veins
4. **Pueblo Mountains** = extreme southeast part of the state
5. **Blue Mountains** = most important gold fields; produced $\frac{3}{4}$ of total output by 1900



Chinese Immigrant Gold Mining in Oregon

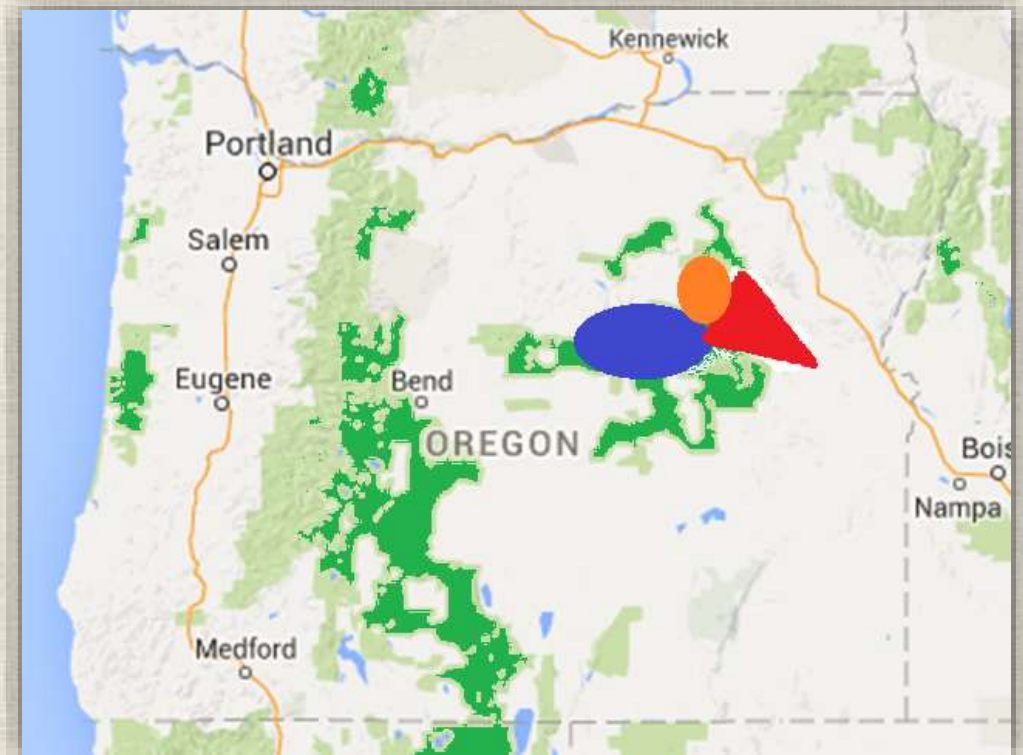
Independent Chinese companies came with their own supply of laborers and contracted to Euro-American mine owners or bought and leased claims to run their own mines.

Initially prohibited from working in mines, by 1864, Chinese men were buying placer claims, usually from Euro-Americans who thought their spot had been “played out”.

Extensive experience in water management placer mining techniques meant Chinese workers could still profit from unwanted claims.



Records and archaeology show that Chinese miners were active in the **Susanville Mining District**, which produced a total of \$600,000 worth of gold by 1900. Also, in the **Quartzburg** and the **Canyon Creek Districts**.



Chinese Immigrant Mining Sites

Chinese immigrant sites on the Malheur are identified through a combination of archival records, artifacts, and mining features. Chinese miners used a mix of traditional Chinese and Euro-American mining techniques that resulted in a unique archaeological footprint:

Modified and Handmade Artifacts:



Hobnailed rubber boot



Modified shovel blade



Handmade low-pressure hydraulic nozzle

Artifacts Imported from China:



Ceramic fragments



Opium container



Cooking oil container

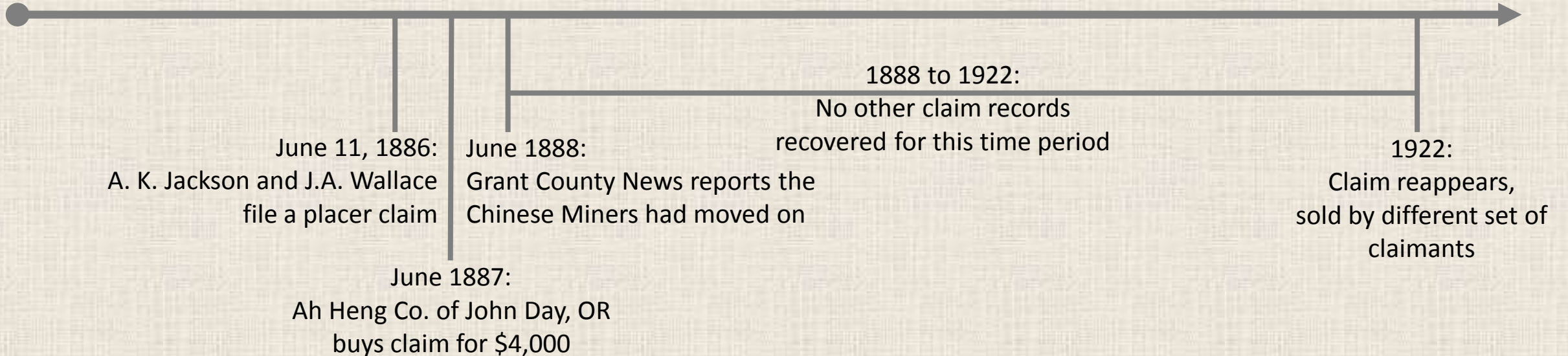
Mining at Big Creek:

Big Creek is a major, southwest-draining tributary of the Middle Fork of the John Day River in Oregon.

The landscape along parts of Big Creek has been heavily modified by placer mining activities. Chinese immigrant miners leased the mine claim and associated ditches and equipment from two Euro-Americans miners.

Although some of the site has been obliterated by later large-scale mining, the section presented here remains intact.

Fragmentary records give a partial history of gold mining on this creek, including the leasing of the claim to the Ah Heng Company.

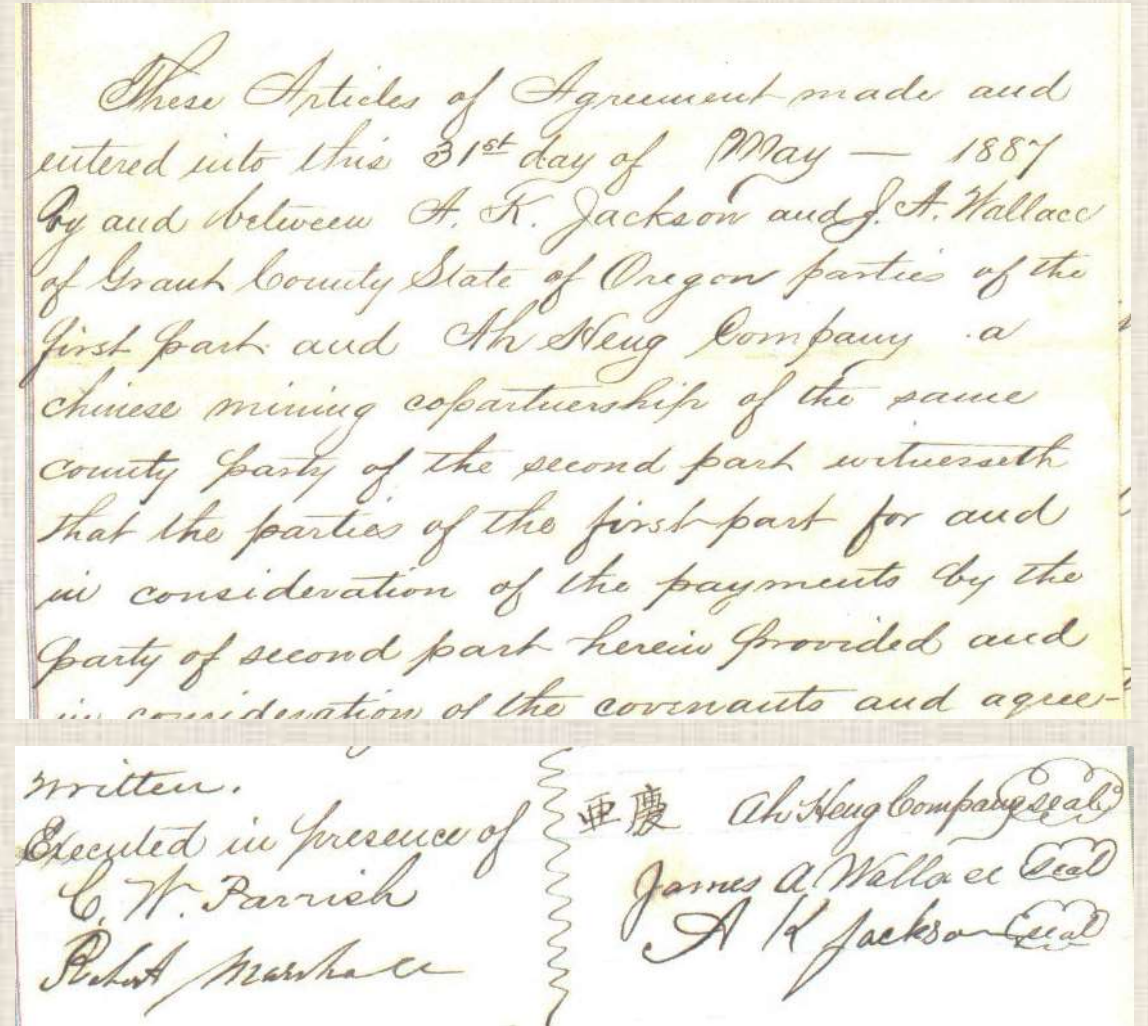


Ah Heng Company Mining Lease

The mining lease signed by Jackson, Wallace, and the Ah Heng Company was found in the [Kam Wah Chung](#) building in John Day.

These Articles of Agreement made and entered into this 31st day of May 1887 by and between A. K. Jackson and J. A. Wallace of Grant county, State of Oregon, parties of the first part, and Ah Heng Company, a Chinese mining co-partnership, of the same county, parties of the second part... lease to the said Ah Heng Company for the term of six years from the date hereof all the following mining property...containing seventeen acres more or less, also one mining ditch conveying water from said Big Creek to the placer claim...also an undivided one fourth interest in ...that certain mining ditch ...conveying water ...to the Beeson placer claims...also all flumes, sluices, and drains now on said placer claims ...also the log cabin... The party of the second part agrees to pay to the parties of first part the sum of Four Thousand Dollars (\$4000.⁰⁰) as a rental of said premises and property for said term..

Partial transcription of the lease

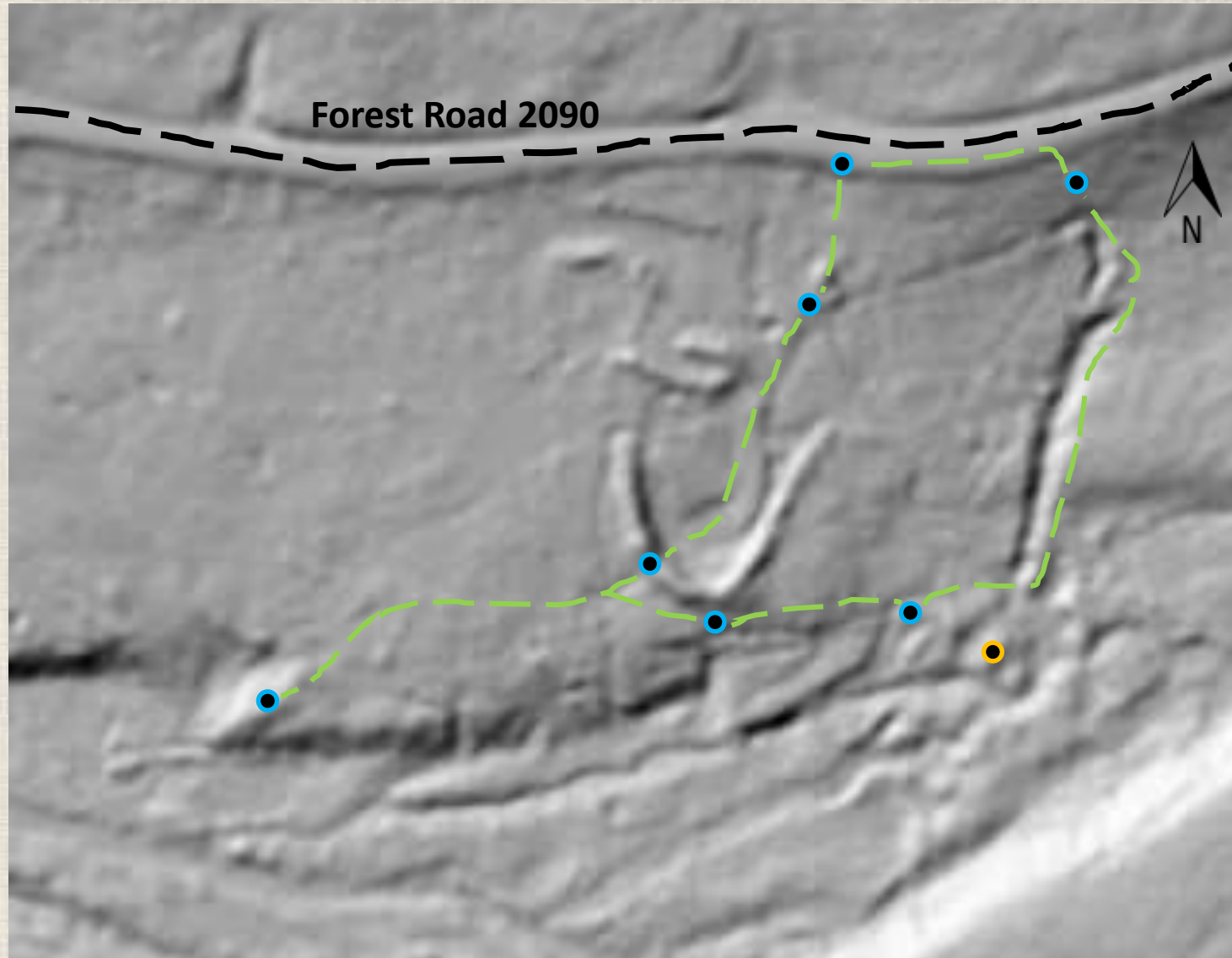


The document is a handwritten mining lease agreement. The top portion contains the first paragraph, written in cursive, detailing the agreement between A. K. Jackson and J. A. Wallace of Grant County, Oregon, and the Ah Heng Company, a Chinese mining co-partnership. The text describes the lease of mining property, including a ditch and placer claims, for a term of six years. The bottom portion of the document shows the execution of the lease, with the text 'Executed in presence of' followed by the names of three witnesses: C. W. Parrish, Robert Marshall, and Ah Heng Company (with a seal). The names of the parties, James A. Wallace and A. K. Jackson, are also written in cursive, each with a seal.

These Articles of Agreement made and entered into this 31st day of May — 1887
By and between A. K. Jackson and J. A. Wallace
of Grant County State of Oregon parties of the
first part and Ah Heng Company a
Chinese mining copartnership of the same
county party of the second part witnesseth
that the parties of the first part for and
in consideration of the payments by the
party of second part herein provided and
in consideration of the covenants and agree-
ments
written.
Executed in presence of 亞慶 Ah Heng Company Seal
C. W. Parrish James A. Wallace Seal
Robert Marshall A. K. Jackson Seal

First paragraph and signatures from the lease

Ah Heng Co. Mining Complex

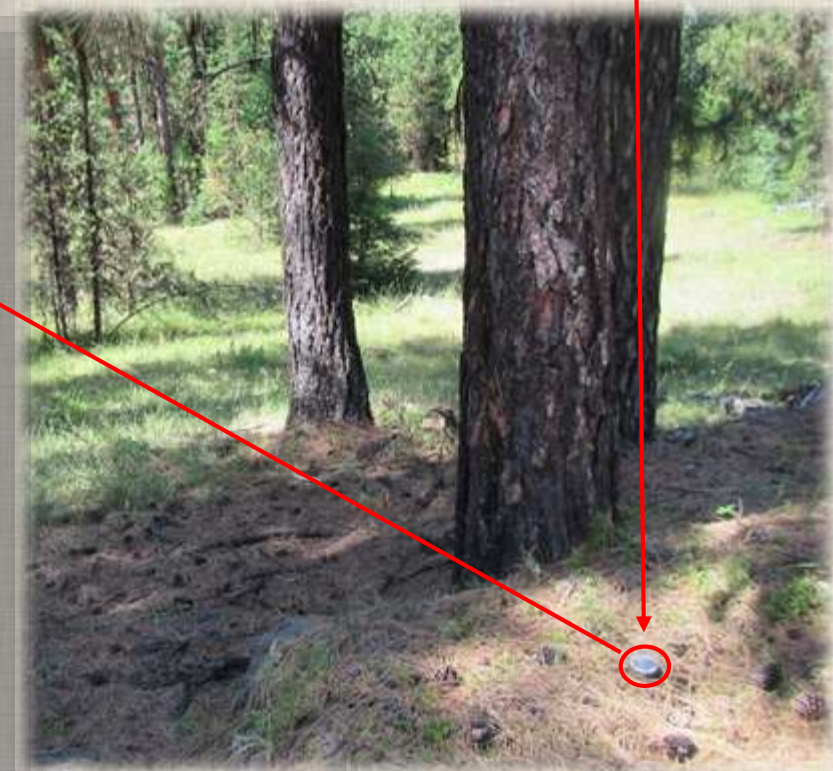


[Lidar](#) maps create a model of the ground surface beneath the forest vegetation. Modification of the ground through mining is visible using these maps.

KEY

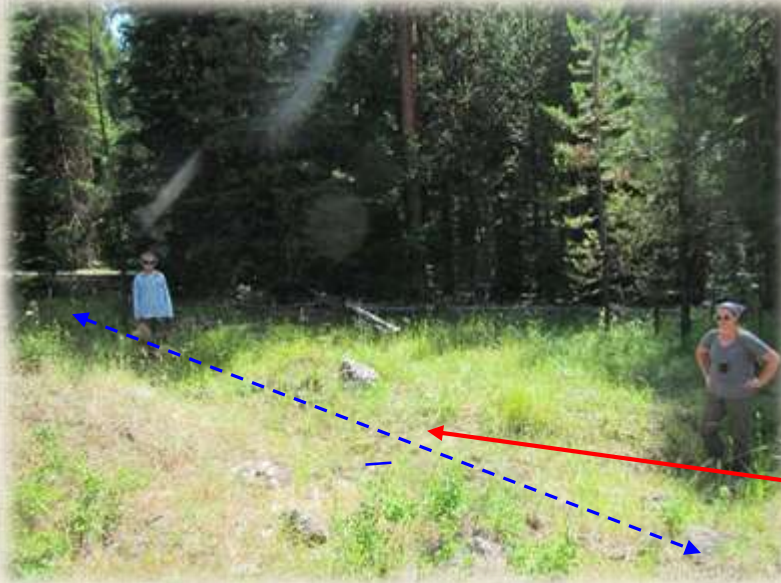
- Waypoint
 - Penstock
 - - - Forest road 2090
 - Route
- *The route is approximately 0.5 miles.

Waypoint A: Trail Head



Waypoint B: Ditches

These ditches were used to carry water from Big Creek to the placer deposits. The horizontal roughly east/west ditch is the lateral. The smaller vertical north/south unning ditches are head races leading from the lateral to a reservoir and the mine.



Lateral ditch



Head race



Waypoint C: Tamped Earth Dam



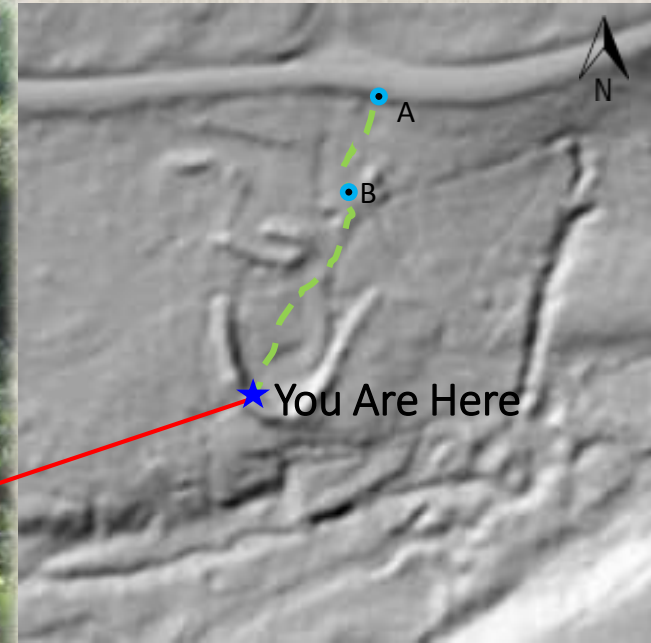
Tamped earth dams and reservoirs are indicative of Chinese mining. Gravity feeds the water and pipes or ditches distribute it.



Views from inside the reservoir



Dam face from outside the reservoir



Waypoint D: Overlook

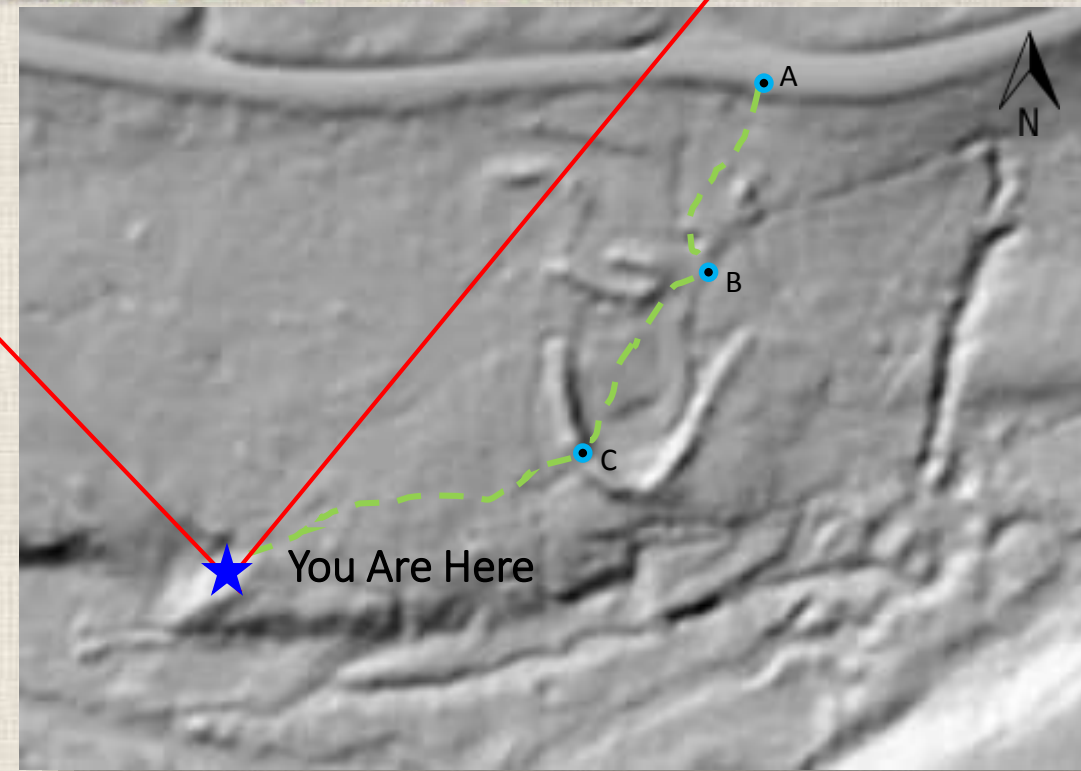
wash pit



tailing piles

In the center you can see **tailing piles**. To the right is a **wash pit**, where water has been used to cut into an alluvial gold bearing bank.

Wash pits from hydraulic mining are rounder than placer cuts from ground sluicing.





Curved wall of wash pit formed using hydraulic nozzles (giants or monitors).



Tailings



Ground leveled in the 1990s

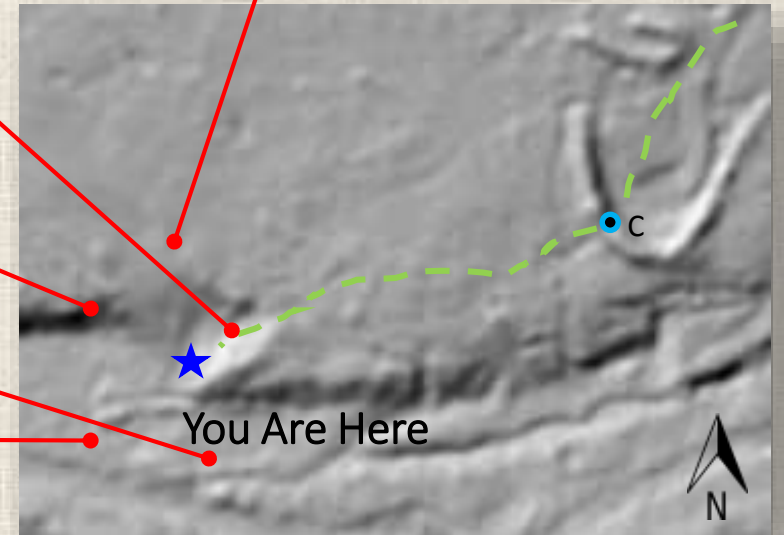
Tailings



Tailings

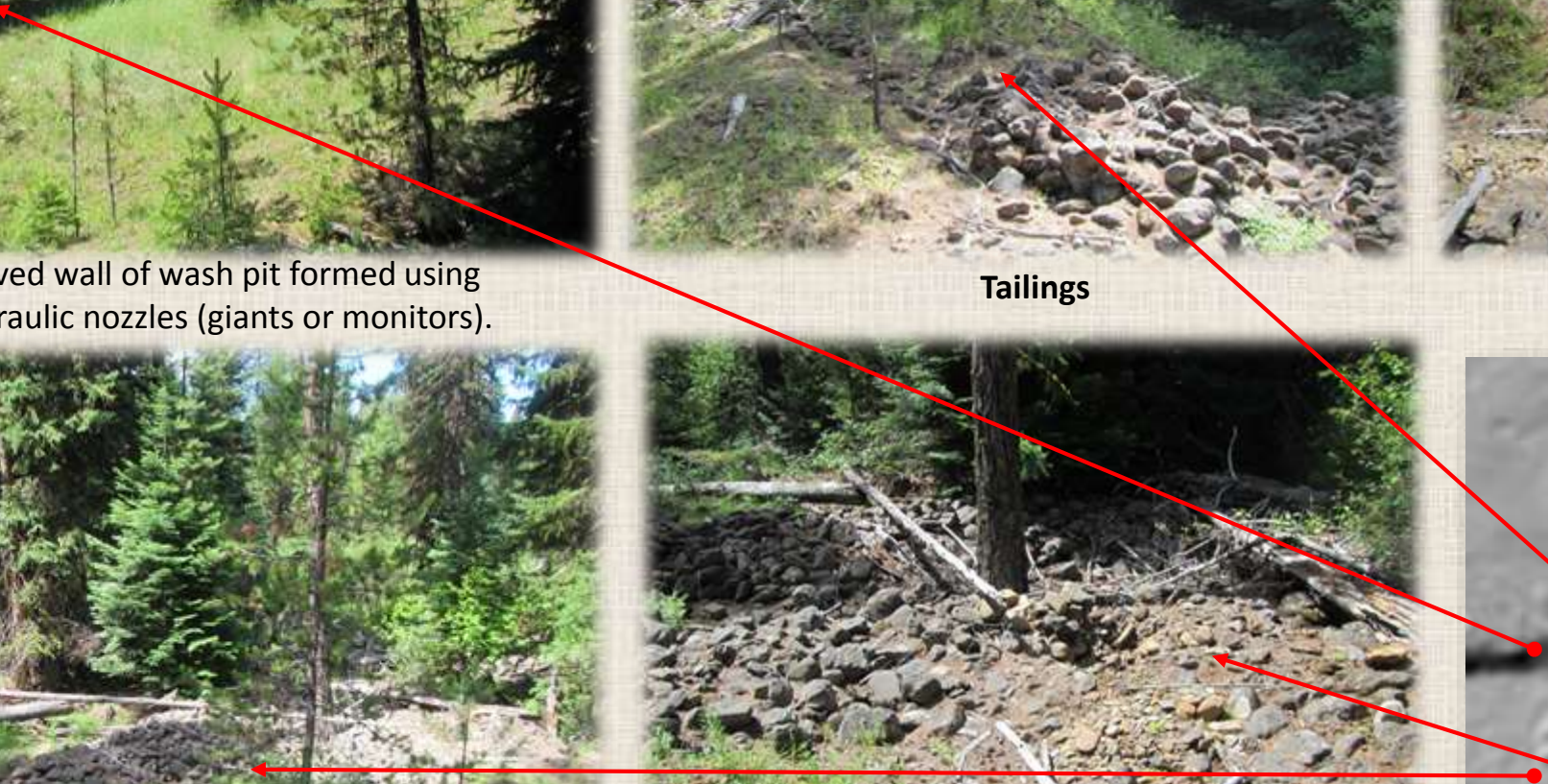
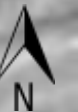


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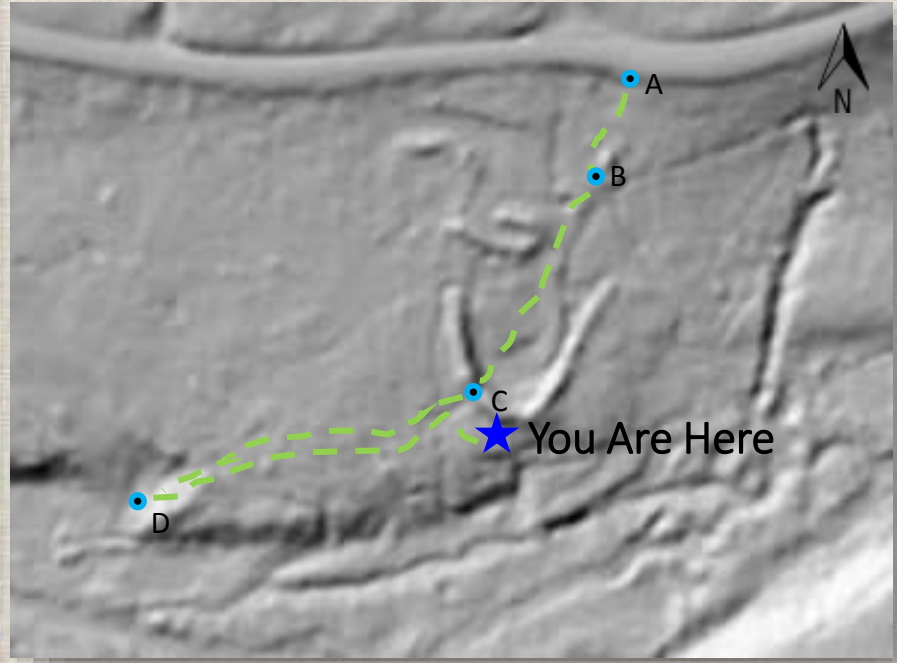


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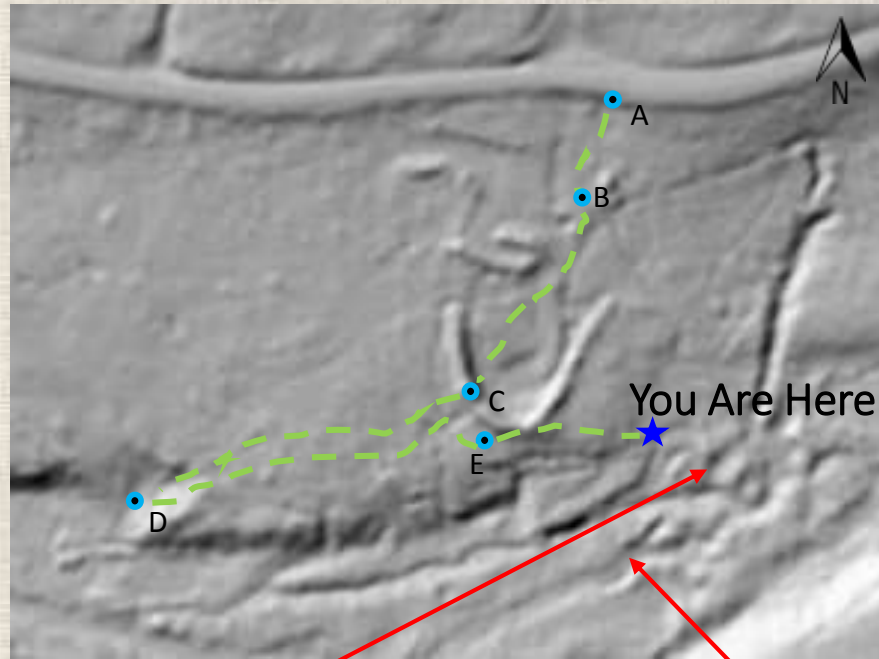


Waypoint E: Earlier Mining



Below the dam the remnants of ditches and head races (photo at left) from earlier placer mining are located closer to Big Creek.

Waypoint F: Tailings and Walls





Walls formed from carefully stacked tailings





Tailing piles show the type of mining that occurred. These large piles are from placer mining using sluice boxes.

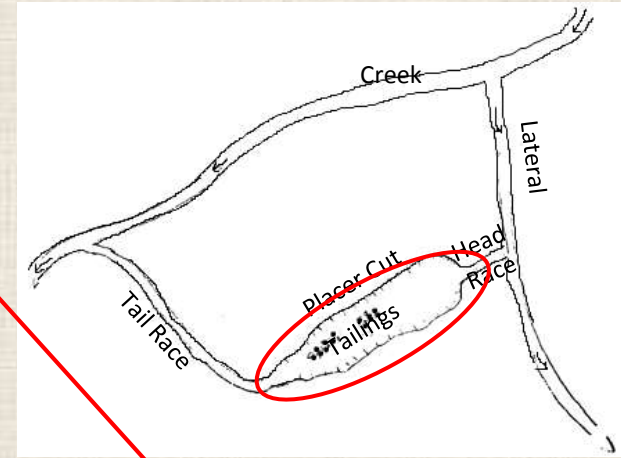
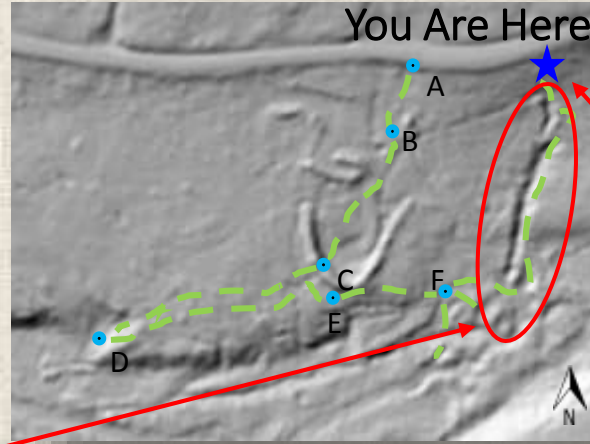


On the tailing are pieces of **penstock**. You can see the rivets used in their manufacture.



Waypoint G: Placer Cut

This placer cut is from ground sluicing. The tailings at Waypoint F were washed in from this cut.

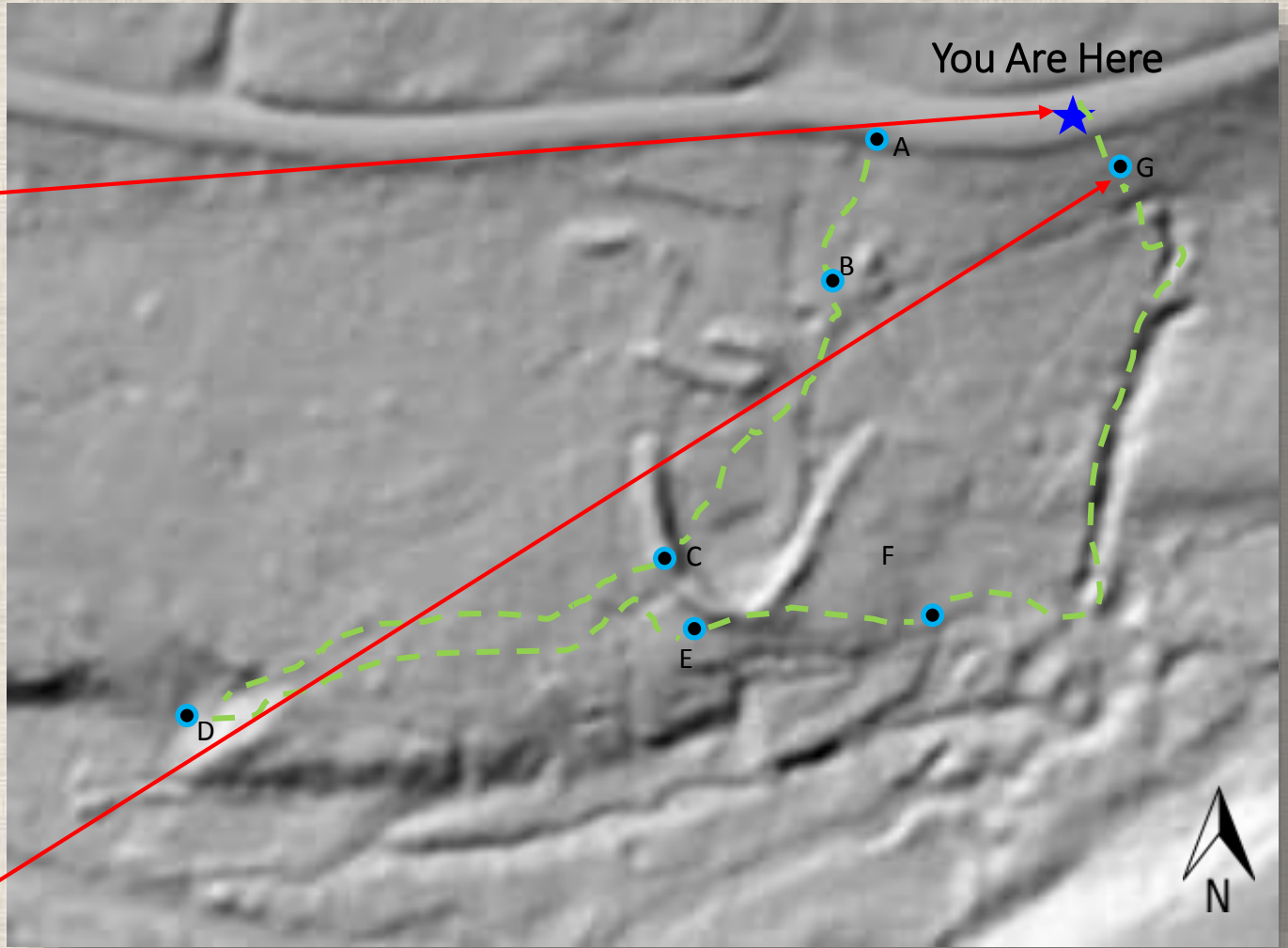


Lower portion of placer cut, facing North



Upper portion of placer cut, facing South

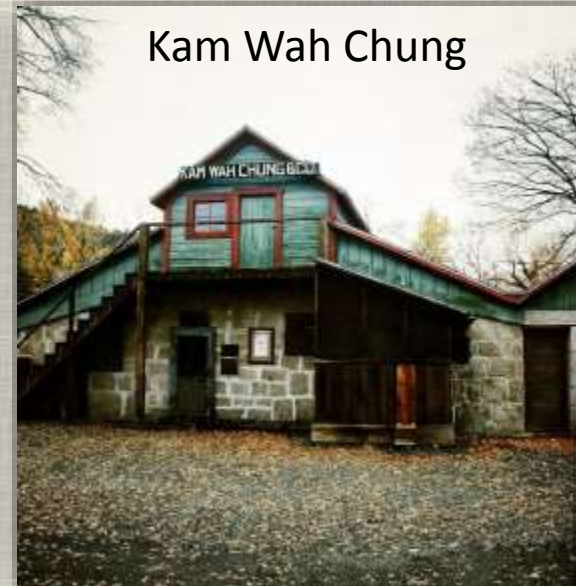
A short, but very brushy, scramble up the edge of the cut and you are back at your car.



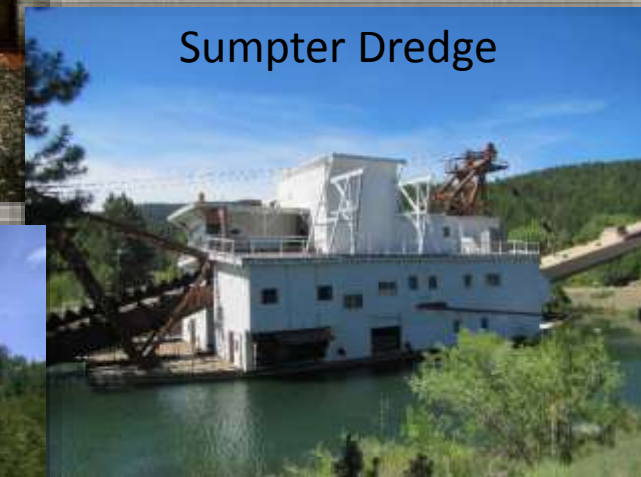
Further Information:

Other Historic Places of Interest:

- [Kam Wah Chung State Heritage Site](#) – John Day, OR
- [Sumpter Valley Dredge State Heritage Area](#) – Sumpter, OR
- [Ah Hee Diggings Interpretive Site](#) – Wallowa-Whitman National Forest
- [Grant County Historical Museum](#) – John Day, OR
- [New Chinatown/Japantown Historic District](#) – Portland, OR
- [Jacksonville Historic District](#) – Jacksonville, OR



Portland Chinatown/Japantown
Historic District



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Grant County mining records from 1862-1934 and beyond are in ledger in Grant County courthouse in Canyon City.

Kam Wah Chung Museum Collection

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For volunteer opportunities in the Forest Service Heritage Program see the Passport In Time website:

www.passportintime.com

PRESERVATION 50

COMMEMORATING 50 YEARS OF THE NATIONAL HISTORIC PRESERVATION ACT