Ah Heng Mining Complex

A Malheur National Forest Virtual Tour
Introduction: Types of Gold Mining

Placer vs. Hard Rock (Quartz, Load) 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.
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.

**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.

**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.

All pictures from: http://www.miningartifacts.org/
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.
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 ¾ of total output by 1900

- **1851:** Gold discovered in southwestern Oregon
- **1861:** Gold discovered in Blue Mountains—thousands of miners move to the area

Timeline:
- 1860s to early 1900s: Primarily placer mining
- 1890s to 1920: Focus shifts to hard rock mining
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:
- Cooking oil container
- 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.

Mining at Big Creek:

- June 11, 1886: A. K. Jackson and J.A. Wallace file a placer claim
- June 1887: Ah Heng Co. of John Day, OR buys claim for $4,000
- June 1888: Grant County News reports the Chinese Miners had moved on
- 1888 to 1922: No other claim records recovered for this time period
- 1922: Claim reappears, sold by different set of claimants
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

First paragraph and signatures from the lease
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

You Are Here
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 running ditches are head races leading from the lateral to a reservoir and the mine.
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.
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).

Ground leveled in the 1990s

You Are Here
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
Bibliography:

Primary Sources
Annual Federal government reports on mines and mining - Raymond 1872 and Burchard 1883.
Grant County mining records from 1862-1934 and beyond are in ledger in Grant County courthouse in Canyon City.
Kam Wah Chung Museum Collection

Sources about Mining
Giluly et al. Some Mining District of Eastern Oregon, 1933.

Sources about Immigrant Chinese and Mining
www.oregongeneology.com
Acknowledgements:

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For volunteer opportunities in the Forest Service Heritage Program see the Passport In Time website: www.passportintime.com

PRESERVATION 50
COMMENORATING 50 YEARS OF THE NATIONAL HISTORIC PRESERVATION ACT