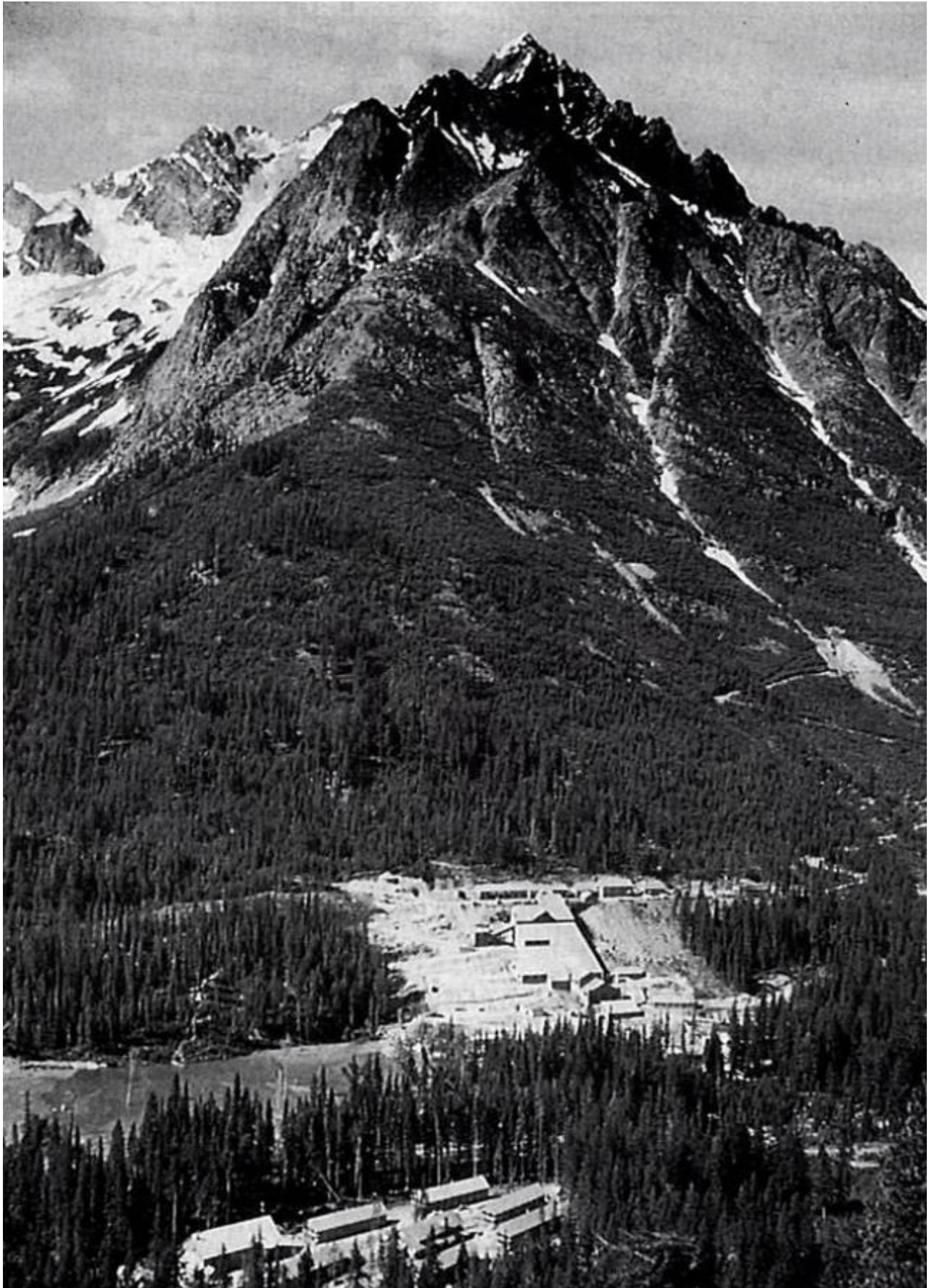
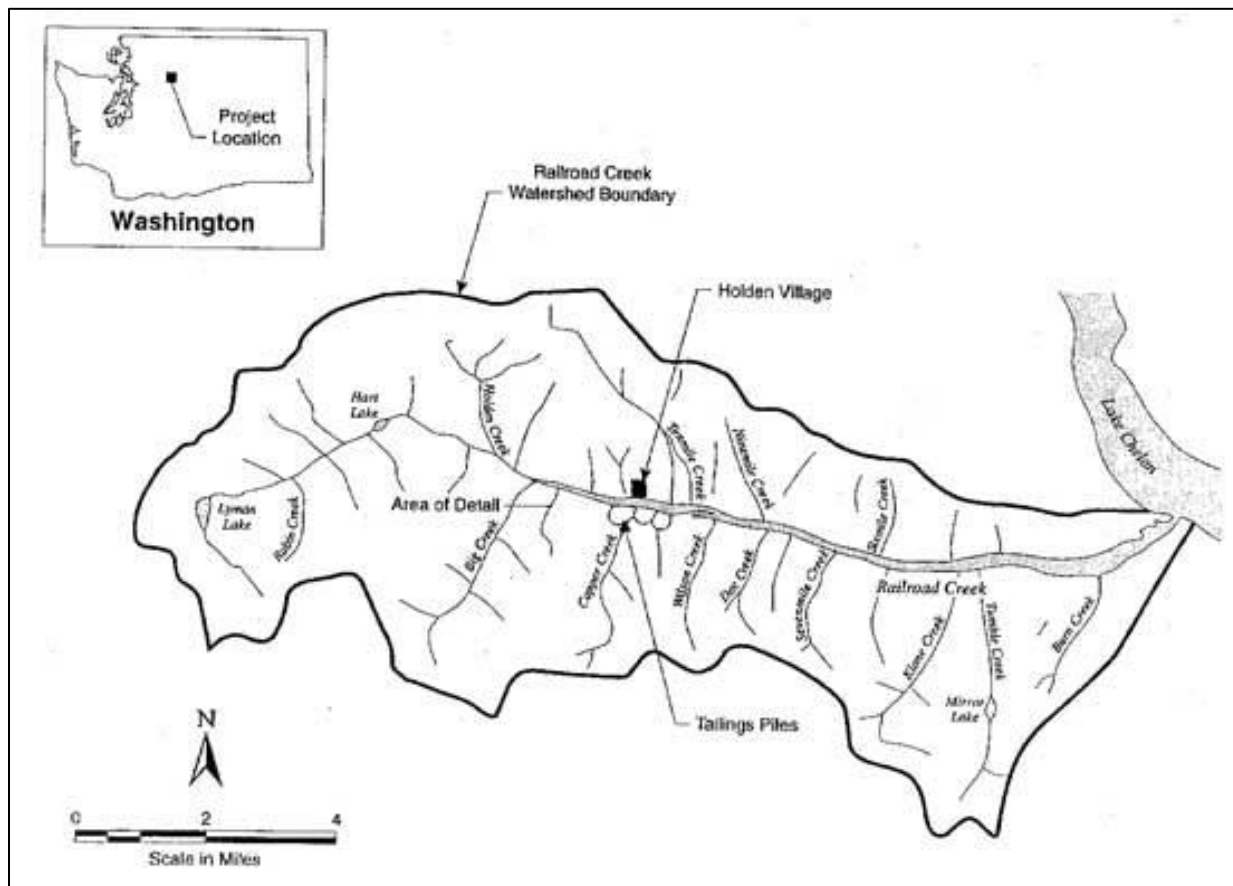


Holden Mine Site Historical Maps and Photos



Original Holden Mine operation.



Map of Holden Mine area.



View of the tailings piles. Ten million tons of ore was processed through the mill over the 20 years of operation. The low grade copper ore was concentrated and 8.5 million tons of tailings were dumped next to the mine portal, covering about 90 acres of wetlands next to Railroad Creek. Approximately 1.5

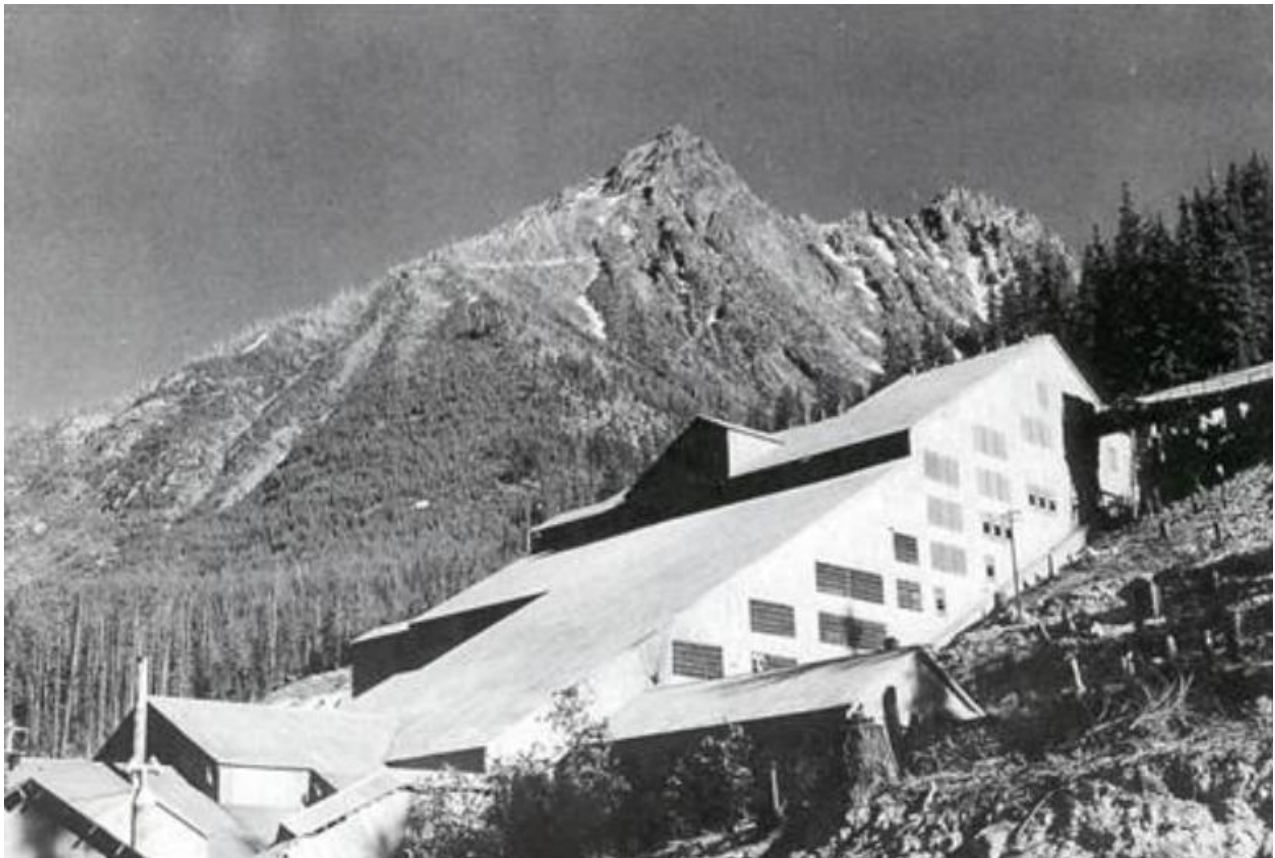
million tons of tailings backfilled into the mine. Several large piles of waste rock are located near the portal and elsewhere for a total disturbance of approximately 120 acres. Although this practice was not unusual for its time, it took place within a remote and otherwise untouched area subsequently surrounded on three sides by the Glacier Peak Wilderness Area.



Map of Holden. The Holden Mine site is located on the Chelan Ranger District of the Okanogan-Wenatchee National Forest.



1975 aerial photo of the Holden Mine site including tailings, waste rock piles, and Railroad Creek.



Holden Mine Mill building by Larry Penberthy



Holden Mine Site view of Mill Building



Remnants of the old Holden Mill building.



Holden Mill structure demolition.



Previous mill structure location, Nov. 1, 2013. The superstructure of the Mill has been dismantled. Excavators with hydraulic hammer attachments were used to demolish concrete, while excavators and articulated trucks removed demolition debris from the work area. A bench was prepared for placing demolition debris within the former Mill structure area. The demolition debris was then returned to the Mill structure footprint, covered and compacted with waste rock.



Bypass road development.



West bypass road construction, filling and grading the road surface.



Bypass road construction, tailings and bypass. To access the mine site, the bypass road travels over tailings pile 1 and tailings pile 2 (orange material in the picture).



Bypass road slope erosion control blanket.



East bypass road crossing and prepping of the bridge location. Looking northeast at the prep work for the temporary bridge over Railroad Creek.



A temporary bridge over Railroad Creek was put in place as part of the bypass road to the mine site. The bypass road was constructed to minimize construction traffic through Holden Village.



Bypass bridge over Railroad Creek completed and in use.



Bypass road looking towards the bypass bridge over Railroad Creek.



Staging area. This area was prepped as a staging area for temporary contractor facilities.



Quarry road.



Rock quarry investigation pioneer road.



Rock Quarry investigation road.



Areas along the Holden bypass road and Forest Service Road 8301 received hydro seeding to encourage vegetation growth in the spring. 10-24-2012.



Snowy Holden Village. Snow moving into the Railroad Creek Valley -- October 24, 2012.



Barge used for equipment travel. Equipment and supplies on the barge from Chelan to Lucerne Dock.



Barge full of equipment arriving at Lucerne Landing.



Main Portal--stabilization and sealing of the old entrances to the underground mine so mine drainage can be controlled and treated.



Personnel Camp at Lucerne for Holden Mine Remediation Workers.



Deer passing through Holden Mine project.



New road at Holden ball field. A new road was developed to access the ball field just beyond Holden Village area which will be used as a storage and staging area during heavy construction.



Lower West Ten Mile Borrow



Lower West Ten Mile Borrow is one of three sites where rock, gravel, and soil is collected.



Railroad Creek alignment.



Boulders at Quarry site that will be transported to Lower West Ten Mile Borrow.



Railroad Creek Construction placing rock in creek bed. Development of Railroad Creek.



Copper Creek diversion above Railroad Creek.



The creek was temporarily diverted to reduce the risk of tailings eroding into Copper Creek. Contractors installed “mega ditch” panels in the temporary east diversion area. The contractor also placed and compacted fill in the Copper Creek channel to prepare the original channel for the final configuration. Contractors constructed the tie-in from Copper Creek to the newly realigned Railroad Creek channel.



Barrier wall platform. Excavators remove contaminated tailings materials and reach underlying river sands and cobbles. Excavated material is transported and spread at a material consolidation area located on top of the western edge of Tailings Pile 3.



Grading of Tailings Pile 1, Nov. 1, 2013. Contractors finished grading Tailings Pile 1 for the 2013 construction season. The grading involved utilizing an excavator to load trucks and haul the tailing to Tailings Pile 3 to be spread and compacted. A temporary cover was placed over the newly graded Tailing Pile 1.



Railroad Creek segment 1, Nov. 1, 2013. Water now flows into the new alignment. The disturbed areas along banks of the Railroad Creek realignment area received seed and hydro mulch, along with other winterization measures.



Main portal, Nov. 1, 2013. To capture water draining from the underground mine workings, crews completed constructing concrete bulkheads in the Main and Ventilator Portals.



Barrier wall platform below tailings pile 1, Nov. 1, 2013. The barrier wall platform is in the process of being constructed from east of tailings pile 1 along Railroad Creek and past the toe of tailings pile 2. This platform lays the foundation for the below grade barrier wall that will be installed during the 2014 field season.



Super sacks in Railroad Creek, June 2013. Large bags filled with sand, also known as "super sacks", were used to divert the creek water away from the stream bank so the barrier wall platform could be constructed.



Ten Mile Rock Quarry, June 2013. The 10 mile quarry site is the source where rock slabs and boulders are collected and brought to the lower west Ten Mile Borrow area for processing. The material is used in the creek realignment area and the barrier wall platform.



Railroad Creek water quality from the mine site, 12 miles downstream to Lake Chelan, exceed water quality standards, degrading aquatic habitat.