Welcome

HOLDEN MINE REMEDIATION PROJECT UPDATE



April 30 2014

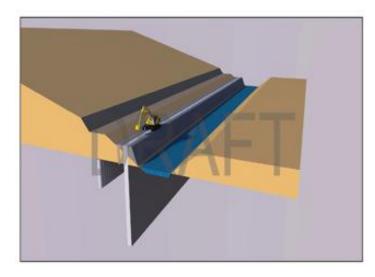
Why clean up the Holden Mine?

- Federally mandated cleanup to address environmental problems from the old Holden Mine:
 - Snowmelt and rainwater mix with metals to create acid mine drainage from mine portal, and acid rock drainage (ARD) from tailings and waste rock piles
 - ARD affects groundwater and surface water quality, including in Railroad Creek
 - While creek water is safe for human consumption downstream of Holden Village, it contains concentrations of hazardous substances that exceed water quality standards for aquatic life
 - Slopes of tailings piles are too steep to withstand a large earthquake
 - Mine-area soils contain concentrations of natural occurring metals
 - No tax dollars involved; Rio Tinto pays for and manages project

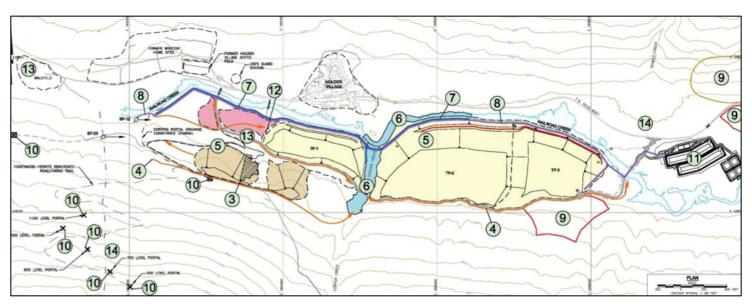
2014: a big and busy year

- Cleanup work began in 2012
- 2013 first year of heavy construction
- 2014 bigger and busier:
 - Installing the below ground barrier wall to collect contaminated water
 - Re-grading and stabilizing tailings





Phase 1 Remediation Plan



Preliminary, under review by regulatory agencies

Remediation Plan



Cap re-graded tailings with crushed stone and growing medium, then plant



Re-grade tailings to prevent leaching into Railroad Creek



Demolish mill building



Iron staining in creek will eventually dissipate after cleanup

Timeline

2011 Early Works 2012 Early Works **2013**Major Construction

2014Major Construction

2015+Finish Construction;
On-going Monitoring

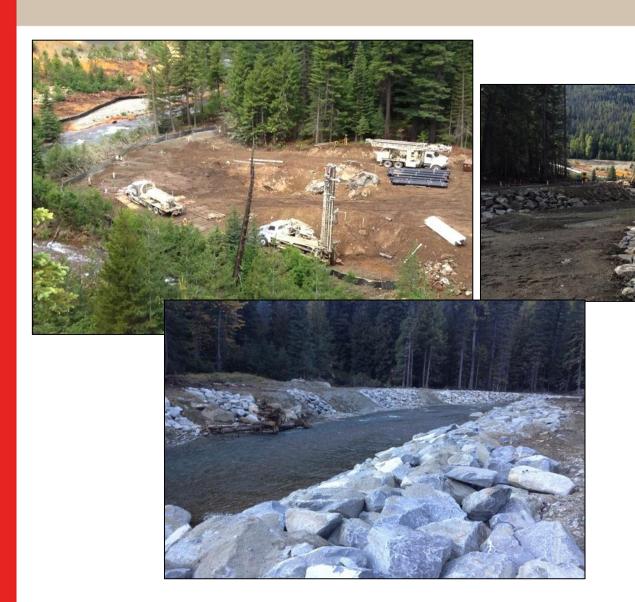
- •Bypass bridge around Railroad Creek (2011-2012)
- •Bypass around Holden Village (2011-2012)
- Quarry and borrow site
- Contractor staging area
- Underground cleanup begins
- Barging from Chelan Boat Company begins
- •Community outreach
- Safety improvements on roads (ongoing)

- •Realign 900 feet of Railroad Creek.
- Temporary diversion of Copper Creek
- Demolish mill building/ Holden Village museum
- Site prep/monitoring:
- Platform for barrier wall construction
- Sediment controls
- Water quality monitoring
- Quarries for rock (erosion protection) and soil (cover)
- Temp. staging areas for equipment/supplies at Lucerne and Chelan
- Barge ramp improvements

- •Install barrier wall to collect contaminated water.
- Begin construction of groundwater collection system.
- Reshape and cover the tailings and waste rock piles with soil to restore vegetation
- Consolidate tailings or cover contaminated soils and restore vegetation

- •Complete ground water collection system
- Complete re-grade of tailings and waste rock piles
- Construction and startup of water treatment plant
- Monitoring
- Ongoing barge activity
- Monitoring of ground and surface water

Railroad Creek Alignment



Copper Creek Diversion



Mill Building Demolition







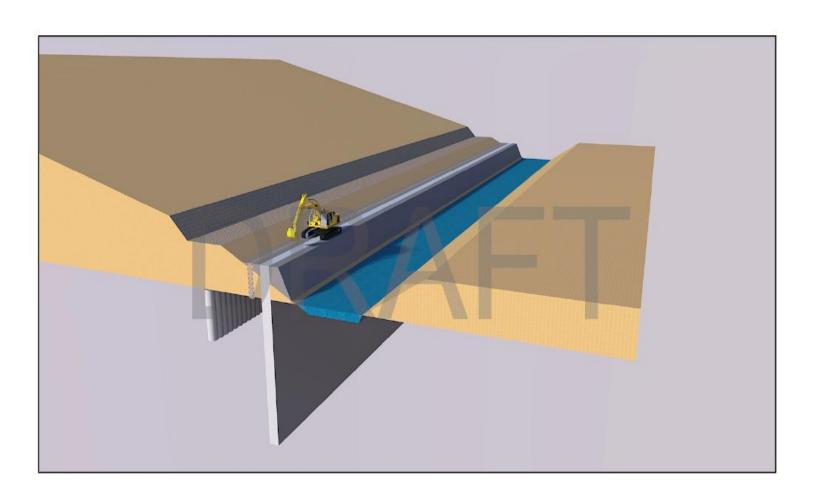
Initial Tailings Re-grading



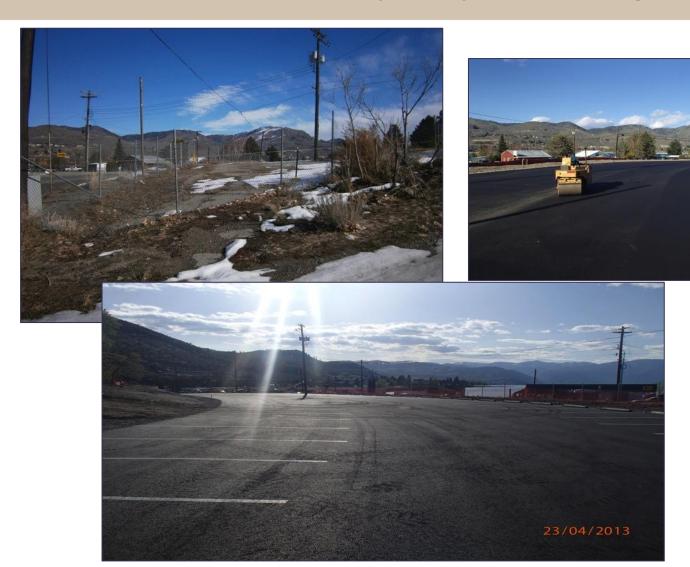
Barrier Wall Platform



Barrier Walls to Improve Water Quality



Chelan Boat Company Parking Lot



Lucerne Barge Ramp



Barge Safety, Schedule & Cargo

- Safety
- Schedule
- Cargo

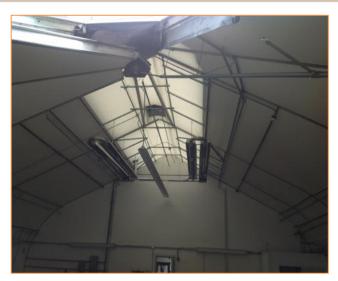


Underground Portal



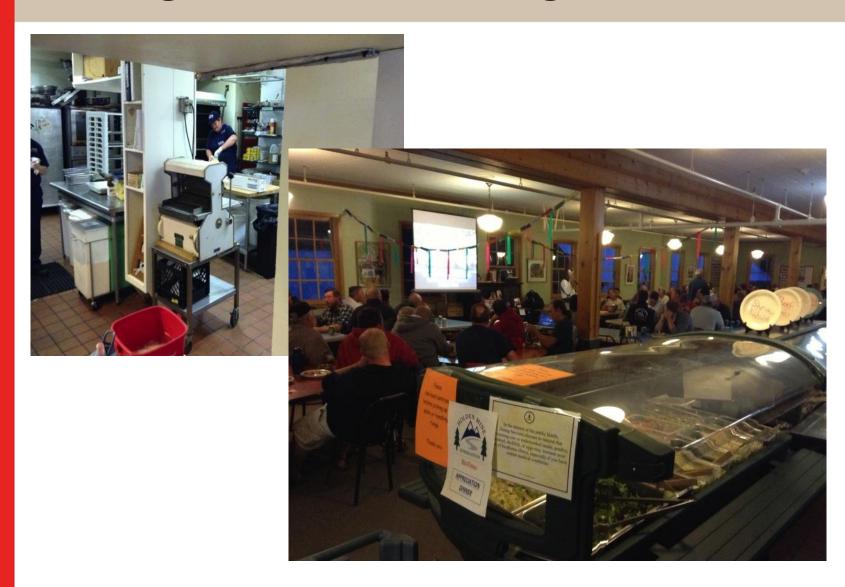
Temporary Maintenance Bldg for Holden Village







Dining Hall and Catering Services



Economy and the Community

- •370 jobs over the life of the project; 60% from Central Washington.
- •\$30+ million in local economic benefits
 - Wages
 - Tax payments
 - Direct payments
 - Camp support and leasing
 - Ferry services, storage area rental
 - Equipment rental
 - Subcontracted and professional services
 - Local lodging
 - Construction-related goods and services
- Additional 50% in value will be generated in the community through the multiplier effect

Community Partners







What's Ahead: 2014-2015+

- –Complete barrier wall
- Complete ground water collection system
- —Re-grade tailings and waste rock piles
- -Complete all of Railroad Creek relocation
- -Startup of water treatment plant
- —Permitting/environmental studies/licensing for hydropower plant
- -Monitoring
- —Ongoing barge activity

Employment: Contact Magnus Pacific

www.magnuspacific.com
Search "Employment"

Or contact Human Resources rjeremiah@magnuspacific.com
916-233-1137

Thank You

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