

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

23 October 2009

DISCHARGER: Walker Mine

LOCATION & COUNTY: Walker Mine, Plumas County

CONTACT(S): None

INSPECTION DATE: 21 October 2009

INSPECTED BY: Jeff Huggins/Dan Little

ACCOMPANIED BY: NA

OBSERVATIONS AND COMMENTS:

Board staff performed the annual fall inspection of the Walker Mine in Plumas County as required by Walker Mine Operations and Maintenance Procedures, dated June 1997.

WALKER MINE PORTAL AREA:

The portal door at the main 700 level adit was securely locked upon our arrival. There did not appear to be any new bullet holes in the steel door that secures access to the 700 level adit nor vandalism of the portal door. A brief inspection of the Telog pressure data recorder indicated that it was recording pressure data daily as programmed.

Board staff downloaded and analyzed pressure data from the Telog data recorder during the inspection. The Telog data recorder is connected via a 2,500-foot long electronic cable to a Druck pressure sensor at the mine seal. Once per day the data recorder measures and stores an electronic current measurement (mAmps) from the Druck pressure sensor. This data is converted mathematically by Board staff to feet of pressure head on the mine seal¹. At the time of the inspection, a current measurement of 6.28 mAmps (approximately 100 feet of head over the mine seal) was recorded. A maximum pressure head of 135 feet over the mine seal was recorded from 1 July through 30 July 2009 likely due to snowmelt seepage into the mine workings.

The batteries that power the Druck pressure sensor recorder were removed and replaced with recharged batteries during this inspection. All four of the heavy-duty locks on the portal doors were securely locked upon leaving the mine portal.

The drainage channel inside the corrugated section of the mine tunnel was working effectively and was not obstructed. The drainage channel between the mine portal and the waste dump was open and flowing at about 0.5 gallons per minute. Board Staff did not perform an inspection of the mine tunnel beyond the corrugated metal pipe (187 feet into the main drift) because approximately 700 lineal feet of the suspended ventilation duct within the main mine

¹ (Note: The Druck pressure sensor is scaled to transmit 4 to 20 mAmps for 0 to 300 psi).

Approved:		
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portal has fallen to the ground and is unusable for ventilation purposes (as reported in the 19 June 2007 inspection report). Repair of the ventilation duct is required before staff can safely inspect the mine seal.

WALKER MINE TAILINGS FACILITY:

Board staff also checked the Walker Mine tailings facility located on adjacent public lands administered by the United States Department of Agriculture Forest Service (USFS). The tailings facility represents a significant source of water pollution into both Dolly Creek and Little Grizzly Creek. Staff inspected progress on the 2009 renovations to the Dolly Creek diversion work being carried out by the USFS as required by Order No R5-00-028. Diversion of Dolly Creek off of the tailings is expected to reduce heavy metals contamination in Little Grizzly Creek.

Renovations to the diversion channel headworks were nearly complete as shown in Photos #4-12. The prior design had not worked effectively, which resulted in a significant amount of subsurface drainage from Dolly Creek passing beneath the diversion structure and making its way to the old Dolly Creek channel.

WATER QUALITY MONITORING:

Surface water samples were collected from Dolly, Little Grizzly, Nye, and Ward Creeks. However, the south branch of Ward Creek (WM-11) and Nye Creek (WM-13) were dry and therefore no samples were collected from these locations. All of the other sample locations had sufficient surface water to sample. Laboratory results are pending.

SUMMARY:

A semi annual inspection was made of the Walker Mine site. Surface water monitoring was performed and water pressure measurements on the mine seal were obtained. New batteries were installed for the data logger. Renovation work at the Dolly Creek drainage channel headworks' was nearly complete and this should reduce the volume of Dolly Creek water that comes into contact with the Walker Mine tailings facility.

RECOMMENDATIONS:

Repair of the ventilation duct is required before staff can safely inspect the mine seal that was installed by the Regional Water Board in 1987 to prevent the discharge of acid mine drainage from the underground mine to Dolly Creek. An effort to initiate a contract for repair of the ventilation ducting and some minor timber rehabilitation work was stalled by budget constraints during the spring of 2009. The mine seal and stainless steel piping and valves need to be inspected and physically tested to ensure their operability in accordance with the Board's Operations and Maintenance Plan for the Walker Mine.

JEFF HUGGINS
Water Resources Control Engineer



1. Walker Mine Portal Area.



4. USFS Headworks diversion above the Walker Mine tailings facility.



2. Looking west towards the tailings facility.



5. Renovated concrete diversion structure for Dolly Creek diversion.



3. Sampling at Dolly Creek upstream (WM-2).



6. Outlet of Dolly Creek to the realignment across the Walker Mine tailings facility.



7. View of the 100 year storm emergency overflow to the old Dolly Creek channel.



10. View of USFS dam with virtually no overflow. Most of the Dolly Creek water volume has been successfully diverted to the diversion channel.



8. View of some minor subsurface underflow water seeping out at the base of the 100 year overflow.



11. View of the Dolly Creek realignment across the Walker Mine tailings facility near junction with Little Grizzly Creek.



9. View of water remaining in the old Dolly Creek channel near the USFS dam.



12. View of Dolly Creek realignment discharge structure to Little Grizzly Creek.