

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

DISCHARGER: Cedar Point Properties

LOCATION & COUNTY: Walker Mine, Plumas County

CONTACT(S):

INSPECTION DATE: 28 May 2002

INSPECTED BY: Rob Busby and Steve Rosenbaum

ACCOMPANIED BY:

OBSERVATIONS AND COMMENTS:

On 28 May 2002 the Telog pressure data recorder indicated 36.4 psig (84.2 feet of pressure head). The recorder was downloaded and charged batteries were installed for the summer monitoring period.

The new (inside) gate installed last summer opens and closes freely. A small amount of iron staining is apparent near the lock. The upper edge of the outer original gate was filed down slightly last summer and the gate now opens and closes freely. The existing locks were replaced with new corrosion resistant Master locks – two on the outside door and two on the inside door. One key fits all of the locks.

The shotcrete-lined ditches constructed last summer were inspected (see attached photographs). Approximately one cfs was flowing down the Central Ore Body diversion channels at this time. Most of the flow entered the ditch in the vicinity of a small meadow located on the east side. Water was flowing over the meadow into the ditch and was also bubbling up and over into the ditch. Water was also bubbling up and into the ditch approximately 30 feet down-slope of the meadow. Small weep holes were observed in several areas between the meadow and this down-stream location. This suggests that subsurface water is present immediately outside of the diversion channel in these areas. The installation of shallow French Drains near the meadow-shotcrete interface and an angled French Drain at the location 30 feet down-slope of the meadow may capture a significant volume of the subsurface flow in this area. Water was flowing through the rip-rap placed at the end of the channel. Some slight channel erosion was noted downstream of the rip rap.

Approximately one to two cfs was flowing down the Piute Ore Body diversion channel. Most of the flow was entering the diversion channel near a gravelly swale which extends in a southwest towards the upper arm of the diversion channel. Water was bubbling up and over into the ditch just above the confluence of the main diversion ditch and the ditch that extends north-south above the sink holes. The installation of an angled French Drain in the gravel swale and possibly another just above the confluence of the diversion ditches may capture a significant volume of the subsurface flow in this area. There was no water flowing in the north-south diversion ditch. However, the pine needles and other debris have been deposited in a manner which is indicative of stormwater runoff.



Robert Busby
Associate Engineering Geologist

Approved:  6/10/02

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

DISCHARGER: Cedar Point Properties

LOCATION & COUNTY: Walker Mine, Plumas County

CONTACT(S):

INSPECTION DATE: 27 May 2004

INSPECTED BY: Rob Busby

ACCOMPANIED BY: Andy Buelna with Magorian Mine Services

OBSERVATIONS AND COMMENTS:

I arrived at the mine portal with Andy Buelna to perform a pre-bid inspection for a scope of work involving re-hanging and securing the air flow vent lines, increasing portal door security and conducting the requisite mine inspection. Mark Suden elected to submit a bid estimate (verbal) without conducting the pre-bid inspection.

The portal door was closed but unlocked. There was evidence that a cutting torch had been employed to remove the former master locks which were installed during the proceeding 10 May 2004 reconnaissance inspection of the mine excavations with the Department of Conservation. The master locks were installed on 10 May 2004 as an interim security measure since the heavy duty solid hardened steel Kryponite pad locks, which were installed on 19 August 2003, had been torched off some time prior to 10 May 2004.

The gel cell batteries were intact and I temporarily installed the Telog pressure data recorder to take a measurement. The current measurement is 6.64 mAmps (121 feet of pressure head) was recorded. I removed the data logger since the mine was unlocked at the time of entry. The portal doors were locked using two heavy duty security Camel locks upon leaving the site.



Robert Busby
Associate Engineering Geologist

Approved:



CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

DISCHARGER: Cedar Point Properties

LOCATION & COUNTY: Walker Mine, Plumas County

CONTACT(S):

INSPECTION DATE: 3 June 2004

INSPECTED BY: Rob Busby

ACCOMPANIED BY: Ross Atkinson

OBSERVATIONS AND COMMENTS:

The two heavy duty steel camel locks securing the portal doors were intact and there was no evidence of attempted entry since they were installed on 27 May 2004. The Telog pressure data recorder was installed and a current measurement of 6.70 mAmps (124 feet of pressure head) was recorded. The charged batteries were installed for the summer monitoring period. The portal doors were locked upon leaving the mine portal.

The portal discharge rate as measured at surface water sampling location No. 1 was approximately 9 gpm.

Surface water samples were obtained in accordance with the operations and maintenance procedures. Laboratory results are pending.



Robert Busby
Associate Engineering Geologist

Approved:  _____

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2006-0005

RESCISSION OF CEASE AND DESIST ORDER NO. 99-111
FOR CEDAR POINT PROPERTIES, INC.
WALKER MINE
PLUMAS COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter referred to as Regional Board) finds:

1. Walker Mine is an abandoned copper mine located near the crest of the Sierra Nevada Mountains near Portola in Plumas County. The mine was operated from 1916 until 1941 and produced 84,000 tons of copper and other metals and more than five million tons of tailings. The mine is on patented mining claims covering about 800 acres. Drainage from the mine property flows into the Little Grizzly Creek and Indian Creek watersheds, which are tributary to the North Fork of the Feather River. The mine has a long history of acidic, copper-laden discharges to surface water.
2. Cedar Point Properties, Inc. acquired the Walker Mine property at a county tax sale in 1997. The company purchased the property to harvest timber from the site. Permitting actions, enforcement, and litigation by the Regional Board ensued in an effort to cleanup the site.
3. On 28 July 1999, the Regional Board adopted Waste Discharge Requirements (WDRs) Order No. 99-110 (NPDES No. CA0084531) and the companion Cease and Desist Order No. 99-111 for Cedar Point Properties, Inc. (Discharger). The time schedule in the CDO included requirements to retain a consultant, submit work plans, and to complete corrective actions necessary for discharges from the portal, sediment pond, and waste rock piles such that they were to be in compliance with the WDRs by 1 October 2002. The Discharger did not comply with the orders and the Regional Board referred the case to the Attorney General.
4. In 2004, Cedar Point notified the Regional Board of its intent to cease timber harvest and suspend its corporate status. The Attorney General on behalf of the Regional Board then obtained a stipulated judgment on Daniel Kennedy, owner of Cedar Point Properties Inc., which settled the Regional Board's litigation against Daniel Kennedy and dismissed additional action against him. Cedar Point Properties no longer exists as an entity that can be regulated by either the WDRs or the CDO, Order Nos. 99-110 and 99-111. Therefore, it is appropriate to rescind both the WDRs and the CDO. The WDRs are being rescinded by a separate order.
5. The Regional Board has notified the Discharger and interested agencies and persons of its intent to rescind CDO No. 99-111 and had provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

6. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, *et seq.*), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.
7. The Regional Board, in a public meeting, heard and considered all comments and evidence pertaining to this matter.

IT IS HEREBY ORDERED that Cease and Desist Order No. 99-111 is rescinded.

I, KENNETH D. LANDAU, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region on 26 January 2006.

KENNETH D. LANDAU, Acting Executive Officer

WLB/SER

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

30 October 2006

DISCHARGER: Walker Mine

LOCATION & COUNTY: Walker Mine, Plumas County

CONTACT(S): None

INSPECTION DATE: 24-25 October 2006

INSPECTED BY: Steve Rosenbaum/Jeff Huggins

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.

MINE STRUCTURES

At the Walker Mine Portal area, hundreds of spent shell cartridges from handguns, rifles, and shotguns were strewn over the ground. The portal door at the mine entrance was securely locked upon our arrival, but had several new bullet holes that had penetrated the steel door. Inspection of the ventilation fan, the ventilation ducting and the Telog pressure data recorder showed no apparent damage from the shooting. There was some evidence of minor vandalism of the concreted stone around the entry into the mine.

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. Two times 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 8.32 mAmps (196 feet of pressure head) was recorded. A maximum pressure head of 232 feet was recorded from 20 June through 12 July 2006 due to snowmelt recharging the mine workings.

The batteries that power the Druck pressure sensor recorder were removed and replaced with recently purchased 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 cleared of one minor obstruction. Board Staff did not perform an inspection of the access

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

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tunnel beyond the corrugated metal pipe (187 feet into the main drift). The timbered section, the unsupported section, and the mine seal were not inspected this year.

WATER QUALITY MONITORING

Surface water samples were taken from all but three of the usual sampling locations. There was no discharge from the settling pond (sample location number 19), thus no sample was taken from this location. Sample location number 10 was not sampled because of time constraints, and sample location number 23 was omitted. The South Branch of Ward Creek (sample location number 11) was dry. However sufficient water was present in a small pool at the culvert outfall to obtain a sample. All of the other sample locations had sufficient surface water to sample. Laboratory results are pending.

SUBSIDENCE AREAS

Staff inspected the diversion channel structures in the area of the Piute Pit workings. There was no water flowing in the diversion channels at the time of the inspection and it appeared that they have been dry for some time. Some cracking of the gunnited channels is starting to become evident and void spaces can be seen between the native ground and the channel walls in some areas that we inspected.

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. Drainage channels at the mine portal and Piute Pit workings were inspected and some maintenance issues were identified.

RECOMMENDATIONS:

Shooting through the steel portal door continues to be a source of risk to the data logger and batteries. A simple solution would be to stack 3 to 4 concrete ready mix bags (90 lb bags) in front of the data logger and battery container. The stainless steel piping and valves at the mine seal should be inspected and physically tested to ensure their operability in accordance with the Board's Operations and Maintenance Plan for the Walker Mine.

The flexible bag ducting outboard of the ventilation fan needs to be replaced before the next underground inspection. A thorough inspection of the access tunnel and the mine seal needs to be performed in the spring. The Federal Mine Safety and Health Administration (MSHA) and Cal-OSHA will on occasion provide underground mine safety inspection services if requested. A request for this service should be made early next spring and preparation for a through underground inspection should begin at the same time.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

19 June 2007

DISCHARGER: Walker Mine

LOCATION & COUNTY: Walker Mine, Plumas County

CONTACT(S): None

INSPECTION DATE: 11–12 June 2007

INSPECTED BY: Steve Rosenbaum/Jeff Huggins

ACCOMPANIED BY: NA

OBSERVATIONS AND COMMENTS:

Board staff performed the annual spring inspection of the Walker Mine in Plumas County as required by Walker Mine Operations and Maintenance Procedures (June 1997). A photo log of the inspection is attached.

MINE STRUCTURES

Board staff arrived on site at the Walker Mine Portal area at 10:00am. The portal door at the mine entrance was securely locked. There was some evidence of minor vandalism of the wooden planking (Photo 14) that covers the drainage conduit at the entry into the mine and one of the portal door locks. There were several new bullet holes in the steel portal door (Photo 15). Inspection of the ventilation fan, the ventilation ducting and the Telog pressure data recorder showed no apparent damage from the shooting. However, ventilation ducting suspended with large plastic zip ties from the 200 station to the 700 station has fallen to the ground and is unusable for ventilation purposes.

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 7.56 mAmps (163 feet of pressure head) was recorded. The maximum pressure head has continued to fall since the last inspection (24–25 October 2006). At that time a pressure head was 196 feet was recorded above the mine seal due to water and snowmelt recharging the mine workings.

The old batteries that power the Druck pressure sensor recorder were removed and replaced with new batteries during this inspection. As mentioned above, Board staff did perform a brief inspection of the access tunnel from the 200 station to the 700 station in order to assess the condition of the ventilation ducting beyond the corrugated metal pipe (187 feet into the main drift). Board staff did note that some timbered sections in the area between the 200 station

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

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and the 700 station are in need of replacement. The complete timbered section, the unsupported section, and the mine seal were not inspected during the site visit.

The drainage channel inside the corrugated section of the mine tunnel was working effectively and was not obstructed. All four of the heavy-duty locks on the portal doors were securely locked upon leaving the mine portal.

WATER QUALITY MONITORING

Surface water samples were taken from 18 of the 25 sampling locations. There was no discharge from the settling pond (Photo 9), thus no sample was taken from this location (sample location number 19). All of the sample locations had sufficient surface water to sample, however water flow in general was low (Photo 2). Laboratory results are pending.

SUBSIDENCE AREAS

Staff inspected the diversion channel structures in the area of the Central and Piute orebody workings. There was very little water flowing in the diversion channels at the time of the inspection and it appeared that water flow has been minimal for some time. Some fallen trees and debris are partially obstructing the Central orebody diversion ditches (Photos 23–25). A vertical ventilation shaft was identified above the Central orebody (Photo 27–29). This shaft is unprotected and open at least several hundred feet deep. This shaft represents a high risk to anyone who unknowingly comes across the area.

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. A brief inspection was made of the access tunnel from the 200 station to the 700 station in order to determine the extent of the fallen ventilation ducting. Drainage channels at the mine portal and Piute and Central orebody areas were inspected, and a vertical air shaft above the Central orebody was identified as a high risk area.

RECOMMENDATIONS:

At the Walker Mine portal, the ventilation ducting must be reinstalled properly between the 200 to 700 foot stations before any underground inspection can take place. An experienced underground mine contractor should perform this work. Additionally, the timbered section and the unsupported section of the main access tunnel need to be inspected for signs of ground support deterioration. 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.

The Central orebody diversion ditch needs to be cleared of fallen trees and debris in order to contain runoff within the shotcrete channel and prevent overflow and potential erosion of the surrounding area. This work could be accomplished using a small hand crew.

Finally, the open ventilation shaft identified above the Central orebody must be guarded or plugged. Board staff will contact the California Department of Conservation Office of Mine Reclamation, Abandoned Mine Lands Unit to request that they immediately act upon this information.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

23 October 2007

DISCHARGER: Walker Mine

LOCATION & COUNTY: Walker Mine, Plumas County

CONTACT(S): None

INSPECTION DATE: 10 October 2007

INSPECTED BY: Wendy Wyels, Steve Rosenbaum, and Jeff Huggins

ACCOMPANIED BY: NA

OBSERVATIONS AND COMMENTS:

On 31 October 2000, Board staff performed the annual fall inspection of the Walker Mine in Plumas County as specified in the Walker Mine Operations and Maintenance Procedures (June 1997). The weather was cloudy and cool (about 35°F). A light snow had fallen the night before the inspection in the higher elevations and a slight rain fell during part of the inspection. A photo log of the inspection is attached.

WALKER MINE TAILINGS SITE

Board staff arrived on site at 10:00am and went first to the Walker Mine tailings site to meet with the representatives of the United States Department of Agriculture Forest Service (USFS), and inspect the progress of the Dolly Creek diversion work being carried out as required by Order No R5-00-028. The tailings site represents a significant source of water pollution into both Dolly Creek and Little Grizzly Creek. Diversion of Dolly Creek off of the tailings is expected to reduce heavy metals contamination in Little Grizzly Creek.

Construction of the diversion channel infrastructure was nearly complete as shown in Photos #2-11. However, the USFS project engineer (George Butler, Plumas National Forest) indicated that a significant amount of subsurface drainage from hillsides surrounding the tailings site is making its way into the tailing site, surfacing in the old Dolly Creek channel, and discharging at the USFS dam location as shown in photos #12-13. This was not entirely anticipated by the USFS and will need to be further assessed in order to reduce metals discharged into Little Grizzly Creek.

PORTAL AREA

Board staff next went to the Walker Mine Portal area. The portal door at the mine entrance was securely locked. However, there was some evidence of minor vandalism to the portal door, making it hard to open.

Board staff entered the mine access tunnel and downloaded pressure data from the Telog data recorder during the inspection. At the time of the inspection, a current measurement of 7.08 mAmps (133 feet of pressure head) was recorded. The maximum pressure head has continued to fall since the last inspection (11-12 June 2007). At that time a pressure head of

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154 feet was recorded above the mine seal due to water and snowmelt recharging the mine workings.

The old 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.

WATER QUALITY MONITORING

Surface water samples were taken from 11 of the 25 sampling locations, located in the upper Walker Mine watershed area. Most of the sample locations had sufficient surface water to sample, however water flow in general was low. Laboratory results are pending.

SUBSIDENCE AREAS

Staff inspected the diversion channel structures in the area of the Piute orebody workings. There was no water flowing in the diversion channels at the time of the inspection and it appeared that water flow has been minimal for some time.

SUMMARY:

A semi annual inspection was made of the Walker Mine site. The Dolly Creek diversion work at the Walker Mine tailings site being performed by the USFS was nearly completed. If significant subsurface water infiltration of the tailings continues, further work may need to be performed to address this problem. Some surface water monitoring of the upper Walker Mine watershed was performed and water pressure measurements on the mine seal were obtained. New batteries were installed for the data logger. Staff will revisit the site in the spring to replace the batteries, inspect the seal, collect water samples from all monitoring points, and further assess runoff into the subsidence areas.

JEFF HUGGINS
Water Resources Control Engineer

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).

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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

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

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

17 August 2010

DISCHARGER: Walker Mine, Abandoned and Unclaimed Private Property

LOCATION & COUNTY: Plumas County

CONTACT(S): Central Valley Water Board, Jeff Huggins

INSPECTION DATE: 19-23 July 2010

INSPECTED BY: Jeff Huggins, Water Resources Control Engineer

ACCOMPANIED BY: Elmer Brown and Jeremy Micallef, Becks Enterprises

COMMENTS:

During the week of July 19-23 Central Valley Water Board staff supervised the inspection, maintenance, and repairs of the ventilation system in the 700 Level Adit of the Walker Mine by Beck's Enterprises Inc. (Beck's). The work was authorized in a 10 June 2010 Memorandum from the State Water Resources Control Board, Division of Financial Assistance Deputy Director Barbara Envoy to Central Valley Water Board Executive Officer Pamela Creedon. The work performed is described in this inspection report and a photo log of the work performed is also attached.

CONDITIONS:

Weather conditions were clear and warm during the week with temperatures outside of the adit in the mid 80's Fahrenheit. Inside the 700 Level Adit, depending on the location within the adit, conditions were both wet and dry with temperatures of about 55° Fahrenheit.

DAILY ACTIVITIES:

18 July 2010 – Central Valley Water Board staff and the Contractor (Beck's) mobilized to Portola California to begin work at the Walker Mine. Staff met briefly with the contractor to discuss access to the mine site, proposed start time, status of equipment and supplies, and location of local suppliers.

19 July 2010 – 6:30 am: Mobilized to the Walker Mine with the contractor.

6:30-9:00: Unload and setup equipment and supplies (see photos 1-6).

9:00am: Preliminary safety meeting before entering 700 Level Adit. Tested radio communications gear for both the mine entry and telecommunications for access to 911 emergency services. Initial reconnaissance of the first 400 lineal feet of the 700 Level Adit was performed using multi-gas detector which continuously monitors for oxygen levels. Required oxygen levels were within the acceptable parameters of 19.5 to 22 percent oxygen.

9:30-11:30 am: Removed old ventilation fan flexible exhaust line and install new flexible line (see photo 4).

Approved:

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11:30-1:30 pm: Jerry Snapp of the California Department of Occupational Safety and Health, Mining and Tunneling Unit is on-site to conduct the prejob safety meeting.

1:30-3:30: Test generator and fan (see photos 7-12). Fan motor runs for approximately 20 seconds and trips motor control circuit overload switches. Several more attempts to run fan in both forward and reverse resulted in continual tripping of circuit overload switches in less than 20 seconds. Trouble shoot problem, by going through all electrical circuits, connectors, and generator controls. No success.

3:30-6:00 pm: Offsite to find qualified large power electrician to trouble shoot fan motor problem. Call seven different electrical contractors (Dave's Generator, Compass Equipment, AIC Electric, Allens Electric, Gray Eagle Electric, Grizzly Electric, and Burritt Electric). Return calls from Compass, AIC, and Burritt. Conduct short phone interviews with each to determine experience and availability. Burritt has experience with large power systems at Nevada Cement Plant, is local and is available Tuesday morning. Select Burritt and make arrangements for his services to be paid by Becks Enterprises as a subcontractor.

20 July 2010 – 6:30 am: Meet John Burritt and mobilized to Walker Mine with him.

7:30-11:00 am: John Burritt and Elmer Brown trouble shoot fan electrical motor problems. After testing generator output, each power cable and connectors, motor control switch gear and circuit breakers, and finally the fan motor, John Burritt finds that the fan motor had been previously rewired to run on 3 phase 208/240 voltage. Both the fan motor plate and job specifications had indicated that the fan motor was 3 phase 480 voltage.

With this information, the generator was switched to run on 3 phase 230 voltage and the fan performed successfully in both the forward and reverse mode. Under start-up conditions (full load amps), the amperage of the fan motor climbed to 40 amps and took nearly 30 seconds to draw down to the normal operating range of approximately 4 amps. John Burritt surmised that the fan would run more efficiently and draw less startup amperage if wired correctly in the future (3 phase 480 voltage).

7:30-11:00am: Jeremy, Larry, and Jimmy start re-hanging ventilation ducting (see photos 15-16). Suspension wire (photo 17) obtained by Beck's is of better quality than required in the Scope-of-Work. Therefore, single wrapping of 18-inch Schauenburg ducting is allowed by staff. Additionally, because most timber sets are skin-to-skin suspension wire cannot be hung from the cap timbers. As such, 20-penny nails are driven into competent timbers high-up on each rib and the suspension wire and 18-inch Schauenburg ducting hung from that anchor point (see photo 18).

11:30-4:30pm: 600 feet of ventilation ducting re-hung during the day. Fan tested in both the forward (exhaust) and reverse (blow) mode. Better air flow was achieved in the exhaust mode and that mode was maintained for the duration of the project.

21 July 2010 – 6:30 am: Mobilize to Walker Mine. Meet with the contractor and discussed planned activities. Plan is to finish hanging vent ducting in the timbered section today (up to Station 1,100). Some of the bell ends of the vent ducting are cracked or split and may not seal correctly. Decide to rotate ducting so splits are towards the outside of the rib where they can be inspected and sealed if necessary. Elmer to inspect a portion of the unsupported section of the 700 Level Adit depending on airflow and ground conditions.

8:30-11:30: Good progress in re-hanging vent ducting up to the Station 1,000. Some unsupported ground near Station 1,000 required support (photo 20). Beck's used some of the Regional Water Boards stockpiled pressure treated 3"x12" timber for this work.

11:30-4:30 pm: Finished hanging vent line in the timbered section, start transition to the floor. Inspect, sound, and perform minor scaling all the way to the Walker Mine seal (Station 2,675). Overall unsupported ground conditions are good. Minor evidence of rock fall from the back and ribs. Geologic material is decomposed granite (DG) and granodiorite. DG is weathered and granodiorite is heavily fractured with evidence of water and clay in the fractures (photos 21-22). A brief inspection of the mine seal was made by staff (photos 23-24). The seal appeared to have a minor seepage estimated at 0.1-0.25 gallons per minute. This compares with previous estimates made during other site visits.

22 July 2010 – 6:30 am: Mobilize to Walker Mine. Meet with the contractor and discussed planned activities. Plan is to finish transition of the vent ducting from the timbered section (hanging) to the floor, to seal the ducting joints where they are leaking in the timbered section only, patch the vent ducting at the damaged sections, mark/paint the Station Numbers at 100-foot intervals, advance the communication line from the timbered section to the mine seal, and cleanup construction debris from current and previous work.

9:30 am Transition of vent ducting from hanging to the floor is complete, Beck's is starting on sealing the joints of the 20-foot long ducting in the timbered section.

9:30-3:30 pm: Beck's works on finishing sealing vent ducting joints and cleanup of trash in the timbered section while staff replaced the four large (12 volt) deep cycle marine batteries with similar recharged batteries. These batteries provide continuous power for the GE Druck data transmitter and the Telog data logger. Staff also replaced the two small (3 volt) Telog data recorder batteries (photos 29-30). The data recorder batteries had gone approximately 6 years without replacement and had failed during our 9 June 2010 inspection while we were downloading data from the recorder.

Because staff was unable to change the 3-volt batteries within the allotted 20 seconds, the original programming and stored data on the Telog data recorder were lost. However, a duplicate of the stored data is retained on the Walker Mine lap top computer and on the Central Valley Water Boards T drive. Staff reprogrammed the Telog data recorder and obtained a data recorder reading of 6.68-mAmps (123 feet of pressure head). This correlated reasonably with the last recorder reading during the 9 June 2010 inspection of 6.92-mAmps (134 feet of pressure head).

23 July 2010 – 6:30 am: Mobilize to Walker Mine. Meet with the contractor and discuss planned activities. Plan is for Beck's to repair the crushed vent ducting at Station 1,940 that was damaged from scaling activities during a prior inspection. Beck's to finish advancing the communications line to the mine seal and test, and take ventilation readings throughout the 700 Level Adit. Board staff will inspect mine seal and valves for leakage and corrosion.

7:30-10:30am: Becks repaired the crushed vent ducting at Station 1,940 by cutting sections from extra vent ducting and constructing a sleeve over the damaged section. Patch works fairly well. Beck's assisted staff in testing the Regional Water Boards Walker Mine

communication gear. Communication gear works fairly well, but has some limitations regarding mobility and call out (e.g. no squawk box function). Both operators have to be on the line at the same time using prearranged communications schedule.

10:30am-3:00pm: Staff inspected the mine seal and valves. Slight leakage noted in upper left hand corner of the mine seal. Leakage appears to be coming through the contact between the overlying granodiorite formation and the mine seal. As discussed above, the mine seal appeared to have minor seepage estimated at 0.1-0.25 gallons per minute. On the left hand side of the adit, water was pooled immediately below the mine seal to a depth of approximately 18-inches (see photo 24). This water is retained by spilled concrete on the floor of the adit, which is presumably from the mine seal construction. Once the pooled water tops over the spilled concrete abutment, it quickly infiltrates into the floor of the adit within approximately 100 feet of the end of the concrete. The floor of the adit and drainage ditch is dry from that point to nearly the timber section of the 700 Level Adit.

The two 4-inch shutoff valves and auxiliary valves were loosely covered with thin plastic bags to protect the valves from seeping water from the mine seal and the roof. Staff carefully removed the plastic covering and inspected the 4-inch shutoff valves originally installed with the mine seal in 1987. The pressure gauge installed on the right hand 4-inch stainless steel drain pipe indicated a gauge reading of approximately 50 pounds per square inch which corresponds to a approximately 116 feet of pressure head.

The rotary, manual, handwheel actuator for each valve are painted cast iron. The actuators are encrusted with metal oxide deposits and show external corrosion due to constant exposure of acidic water from the mine seal area (photos 31-32). The exterior of the valves themselves are lightly corroded but appear to be in good condition. The downstream 4-inch auxiliary backup valves made of stainless steel that were installed during 2001 Walker Mine Seal Testing show little evidence of corrosion (photo 33).

Because of time constraints and limited mechanical tools on hand, no effort was made to operate the primary control valves or the downstream backup valves. Staff covered the valves with heavy duty visqueen bags and exited the adit. Staff recommends that during the regular 2010 pre-winter inspection that Board staff be prepared to test the operation of the valves in accordance with the procedures outlined in the section 7 of the Walker Mine Seal Testing and Evaluation Report (GEI Consultants, 1 March 2002).

SUMMARY:

During the week of July 19-23rd Central Valley Water Board staff supervised a contractor in the inspection, maintenance, and repairs of the ventilation system in the 700 Level Adit of the Walker Mine. All work was performed in general accordance with the scope of work and has been completed. The Walker Mine ventilation system is operable, but with some limitations as noted in this Central Valley Water Board inspection report and in Beck's inspection report dated 26 July 2010.

Jeff Huggins
Water Resources Control Engineer

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

17 August 2010

DISCHARGER: Walker Mine, Abandoned and Unclaimed Private Property

LOCATION & COUNTY: Plumas County

CONTACT(S): Central Valley Water Board, Jeff Huggins

INSPECTION DATE: 19-23 July 2010

INSPECTED BY: Jeff Huggins, Water Resources Control Engineer

ACCOMPANIED BY: Elmer Brown and Jeremy Micallef, Becks Enterprises

COMMENTS:

During the week of July 19-23 Central Valley Water Board staff supervised the inspection, maintenance, and repairs of the ventilation system in the 700 Level Adit of the Walker Mine by Beck's Enterprises Inc. (Beck's). The work was authorized in a 10 June 2010 Memorandum from the State Water Resources Control Board, Division of Financial Assistance Deputy Director Barbara Envoy to Central Valley Water Board Executive Officer Pamela Creedon. The work performed is described in this inspection report and a photo log of the work performed is also attached.

CONDITIONS:

Weather conditions were clear and warm during the week with temperatures outside of the adit in the mid 80's Fahrenheit. Inside the 700 Level Adit, depending on the location within the adit, conditions were both wet and dry with temperatures of about 55° Fahrenheit.

DAILY ACTIVITIES:

18 July 2010 – Central Valley Water Board staff and the Contractor (Beck's) mobilized to Portola California to begin work at the Walker Mine. Staff met briefly with the contractor to discuss access to the mine site, proposed start time, status of equipment and supplies, and location of local suppliers.

19 July 2010 – 6:30 am: Mobilized to the Walker Mine with the contractor.

6:30-9:00: Unload and setup equipment and supplies (see photos 1-6).

9:00am: Preliminary safety meeting before entering 700 Level Adit. Tested radio communications gear for both the mine entry and telecommunications for access to 911 emergency services. Initial reconnaissance of the first 400 lineal feet of the 700 Level Adit was performed using multi-gas detector which continuously monitors for oxygen levels. Required oxygen levels were within the acceptable parameters of 19.5 to 22 percent oxygen.

9:30-11:30 am: Removed old ventilation fan flexible exhaust line and install new flexible line (see photo 4).

Approved:

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11:30-1:30 pm: Jerry Snapp of the California Department of Occupational Safety and Health, Mining and Tunneling Unit is on-site to conduct the prejob safety meeting.

1:30-3:30: Test generator and fan (see photos 7-12). Fan motor runs for approximately 20 seconds and trips motor control circuit overload switches. Several more attempts to run fan in both forward and reverse resulted in continual tripping of circuit overload switches in less than 20 seconds. Trouble shoot problem, by going through all electrical circuits, connectors, and generator controls. No success.

3:30-6:00 pm: Offsite to find qualified large power electrician to trouble shoot fan motor problem. Call seven different electrical contractors (Dave's Generator, Compass Equipment, AIC Electric, Allens Electric, Gray Eagle Electric, Grizzly Electric, and Burritt Electric). Return calls from Compass, AIC, and Burritt. Conduct short phone interviews with each to determine experience and availability. Burritt has experience with large power systems at Nevada Cement Plant, is local and is available Tuesday morning. Select Burritt and make arrangements for his services to be paid by Becks Enterprises as a subcontractor.

20 July 2010 – 6:30 am: Meet John Burritt and mobilized to Walker Mine with him.

7:30-11:00 am: John Burritt and Elmer Brown trouble shoot fan electrical motor problems. After testing generator output, each power cable and connectors, motor control switch gear and circuit breakers, and finally the fan motor, John Burritt finds that the fan motor had been previously rewired to run on 3 phase 208/240 voltage. Both the fan motor plate and job specifications had indicated that the fan motor was 3 phase 480 voltage.

With this information, the generator was switched to run on 3 phase 230 voltage and the fan performed successfully in both the forward and reverse mode. Under start-up conditions (full load amps), the amperage of the fan motor climbed to 40 amps and took nearly 30 seconds to draw down to the normal operating range of approximately 4 amps. John Burritt surmised that the fan would run more efficiently and draw less startup amperage if wired correctly in the future (3 phase 480 voltage).

7:30-11:00am: Jeremy, Larry, and Jimmy start re-hanging ventilation ducting (see photos 15-16). Suspension wire (photo 17) obtained by Beck's is of better quality than required in the Scope-of-Work. Therefore, single wrapping of 18-inch Schauenburg ducting is allowed by staff. Additionally, because most timber sets are skin-to-skin suspension wire cannot be hung from the cap timbers. As such, 20-penny nails are driven into competent timbers high-up on each rib and the suspension wire and 18-inch Schauenburg ducting hung from that anchor point (see photo 18).

11:30-4:30pm: 600 feet of ventilation ducting re-hung during the day. Fan tested in both the forward (exhaust) and reverse (blow) mode. Better air flow was achieved in the exhaust mode and that mode was maintained for the duration of the project.

21 July 2010 – 6:30 am: Mobilize to Walker Mine. Meet with the contractor and discussed planned activities. Plan is to finish hanging vent ducting in the timbered section today (up to Station 1,100). Some of the bell ends of the vent ducting are cracked or split and may not seal correctly. Decide to rotate ducting so splits are towards the outside of the rib where they can be inspected and sealed if necessary. Elmer to inspect a portion of the unsupported section of the 700 Level Adit depending on airflow and ground conditions.

8:30-11:30: Good progress in re-hanging vent ducting up to the Station 1,000. Some unsupported ground near Station 1,000 required support (photo 20). Beck's used some of the Regional Water Boards stockpiled pressure treated 3"x12" timber for this work.

11:30-4:30 pm: Finished hanging vent line in the timbered section, start transition to the floor. Inspect, sound, and perform minor scaling all the way to the Walker Mine seal (Station 2,675). Overall unsupported ground conditions are good. Minor evidence of rock fall from the back and ribs. Geologic material is decomposed granite (DG) and granodiorite. DG is weathered and granodiorite is heavily fractured with evidence of water and clay in the fractures (photos 21-22). A brief inspection of the mine seal was made by staff (photos 23-24). The seal appeared to have a minor seepage estimated at 0.1-0.25 gallons per minute. This compares with previous estimates made during other site visits.

22 July 2010 – 6:30 am: Mobilize to Walker Mine. Meet with the contractor and discussed planned activities. Plan is to finish transition of the vent ducting from the timbered section (hanging) to the floor, to seal the ducting joints where they are leaking in the timbered section only, patch the vent ducting at the damaged sections, mark/paint the Station Numbers at 100-foot intervals, advance the communication line from the timbered section to the mine seal, and cleanup construction debris from current and previous work.

9:30 am Transition of vent ducting from hanging to the floor is complete, Beck's is starting on sealing the joints of the 20-foot long ducting in the timbered section.

9:30-3:30 pm: Beck's works on finishing sealing vent ducting joints and cleanup of trash in the timbered section while staff replaced the four large (12 volt) deep cycle marine batteries with similar recharged batteries. These batteries provide continuous power for the GE Druck data transmitter and the Telog data logger. Staff also replaced the two small (3 volt) Telog data recorder batteries (photos 29-30). The data recorder batteries had gone approximately 6 years without replacement and had failed during our 9 June 2010 inspection while we were downloading data from the recorder.

Because staff was unable to change the 3-volt batteries within the allotted 20 seconds, the original programming and stored data on the Telog data recorder were lost. However, a duplicate of the stored data is retained on the Walker Mine lap top computer and on the Central Valley Water Boards T drive. Staff reprogrammed the Telog data recorder and obtained a data recorder reading of 6.68-mAmps (123 feet of pressure head). This correlated reasonably with the last recorder reading during the 9 June 2010 inspection of 6.92-mAmps (134 feet of pressure head).

23 July 2010 – 6:30 am: Mobilize to Walker Mine. Meet with the contractor and discuss planned activities. Plan is for Beck's to repair the crushed vent ducting at Station 1,940 that was damaged from scaling activities during a prior inspection. Beck's to finish advancing the communications line to the mine seal and test, and take ventilation readings throughout the 700 Level Adit. Board staff will inspect mine seal and valves for leakage and corrosion.

7:30-10:30am: Becks repaired the crushed vent ducting at Station 1,940 by cutting sections from extra vent ducting and constructing a sleeve over the damaged section. Patch works fairly well. Beck's assisted staff in testing the Regional Water Boards Walker Mine

communication gear. Communication gear works fairly well, but has some limitations regarding mobility and call out (e.g. no squawk box function). Both operators have to be on the line at the same time using prearranged communications schedule.

10:30am-3:00pm: Staff inspected the mine seal and valves. Slight leakage noted in upper left hand corner of the mine seal. Leakage appears to be coming through the contact between the overlying granodiorite formation and the mine seal. As discussed above, the mine seal appeared to have minor seepage estimated at 0.1-0.25 gallons per minute. On the left hand side of the adit, water was pooled immediately below the mine seal to a depth of approximately 18-inches (see photo 24). This water is retained by spilled concrete on the floor of the adit, which is presumably from the mine seal construction. Once the pooled water tops over the spilled concrete abutment, it quickly infiltrates into the floor of the adit within approximately 100 feet of the end of the concrete. The floor of the adit and drainage ditch is dry from that point to nearly the timber section of the 700 Level Adit.

The two 4-inch shutoff valves and auxiliary valves were loosely covered with thin plastic bags to protect the valves from seeping water from the mine seal and the roof. Staff carefully removed the plastic covering and inspected the 4-inch shutoff valves originally installed with the mine seal in 1987. The pressure gauge installed on the right hand 4-inch stainless steel drain pipe indicated a gauge reading of approximately 50 pounds per square inch which corresponds to a approximately 116 feet of pressure head.

The rotary, manual, handwheel actuator for each valve are painted cast iron. The actuators are encrusted with metal oxide deposits and show external corrosion due to constant exposure of acidic water from the mine seal area (photos 31-32). The exterior of the valves themselves are lightly corroded but appear to be in good condition. The downstream 4-inch auxiliary backup valves made of stainless steel that were installed during 2001 Walker Mine Seal Testing show little evidence of corrosion (photo 33).

Because of time constraints and limited mechanical tools on hand, no effort was made to operate the primary control valves or the downstream backup valves. Staff covered the valves with heavy duty visqueen bags and exited the adit. Staff recommends that during the regular 2010 pre-winter inspection that Board staff be prepared to test the operation of the valves in accordance with the procedures outlined in the section 7 of the Walker Mine Seal Testing and Evaluation Report (GEI Consultants, 1 March 2002).

SUMMARY:

During the week of July 19-23rd Central Valley Water Board staff supervised a contractor in the inspection, maintenance, and repairs of the ventilation system in the 700 Level Adit of the Walker Mine. All work was performed in general accordance with the scope of work and has been completed. The Walker Mine ventilation system is operable, but with some limitations as noted in this Central Valley Water Board inspection report and in Beck's inspection report dated 26 July 2010.

Jeff Huggins
Water Resources Control Engineer

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

3 July 2013

DISCHARGER: Walker Mine, Abandoned and Unclaimed Private Property

LOCATION & COUNTY: Plumas County

CONTACT(S): Central Valley Water Board, Jeff Huggins

INSPECTION DATE: 18-19 June 2013

INSPECTED BY: Jeff Huggins, Water Resources Control Engineer

ACCOMPANIED BY: Bill Brattain, Vino Jain, Water Resources Control Engineers

COMMENTS:

On June 18-19, Board staff performed the annual spring inspection of the Walker Mine in Plumas County as required by Walker Mine Operations and Maintenance Procedures, dated June 1997.

UNDERGROUND AREAS INSPECTED:

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. The drainage channel between the mine portal and the waste dump was open and flowing at about 0.5 gallons per minute. All four of the heavy-duty locks on the portal doors were securely locked upon leaving the mine portal.

Ventilation Fan:

As shown in photos # 3-5, the flexible ventilation duct was hooked to the ventilation fan which was powered by the portable generator and fresh air was pushed through the rigid ventilation ducting to the mine seal. The ventilation system was allowed to run for approximately 1-hour before entry was made into the 700 level adit. This configuration results in fresh air continually being pushed towards the mine seal area in the 700 level adit and discernible airflow into the inspectors face as you advance into the 700 level adit.

Seal Pressure:

A brief inspection of the Telog pressure data recorder (photo #7) indicated that it was recording pressure data daily as programmed. 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 7.06 mAmps (approximately 141 feet of head over the mine seal) was recorded. For the period 1 October 2012 through 16 June 2013, a maximum

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

Approved: 

Inspection ID# 13055985

WDID #5A320704003

pressure head of 144.7 feet over the mine seal was recorded on 1 October 2012 indicating that 2012-2013 precipitation was below normal. Board staff downloaded the pressure data from the Telog data recorder during the inspection and used it to update the attached *Walker Mine Concrete Seal Pressure Head and Snow Water Content* graph which is attached to this report. The batteries that power the Druck pressure sensor recorder were removed and replaced with recharged batteries during this inspection (photo #6).

Corrugated Metal Pipe:

The drainage channel inside the corrugated section of the mine tunnel was working effectively and was not obstructed. No corrosion, significant seepage, deflection, or physical damage was observed in the corrugated metal pipe section of the 700 level adit.

Timbered Section:

As shown in photo #8, the timbered section of the 700 level was open and clear. Conditions in this section were wet and appear to be from shallow groundwater infiltration from the hillside directly above the timber supported section (first 900 feet) of the 700 level adit. No major support problems were observed. However, a number of the timber sets, lagging, and blocking are showing signs of significant decay and need to be replaced.

Unsupported Section:

As shown in photo #9, no scaling was necessary in the unsupported section of the 700 level and no signs of recent rockfall were noted. Water seepage observed in the unsupported section was minimal.

Mine Seal, Piping and Valves

Conditions at the mine seal are shown in photos #10-14. Water seepage from around the mine seal and pooled water conditions at the base of the mine seal appeared to be unchanged since July of 2010. Seepage appears to come from the crown of the seal and along both sides. Iron precipitate is evident on the face of the mine seal (nearly centered) but does not appear to be significantly different than that shown in the *Walker Mine Seal Testing and Evaluation Report* (GEI Consultants, 1 March 2002). The piping and valves were uncovered and inspected and no seepage or significant changes in corrosion were noted. The valves have not been tested for a number of years due to concern that they may not close completely if opened. Samples of the water pooled at the base of the seal (monitoring location #30) were collected for laboratory analysis.

SURFACE AREAS INSPECTED:

Walker Mine Tailings Facility:

Board staff also inspected and obtained water samples from in and around the Walker Mine tailings facility (see photos 18-34) located on adjacent public lands administered by the United States Department of Agriculture Forest Service (USFS).

Subsidence Areas (Central Orebody and Piute Orebody):

Due to time constraints, inspection of the diversion channels and the subsidence areas was not made during this inspection.

Water Quality Monitoring:

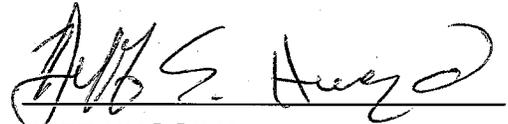
Surface water samples were collected from Dolly, Little Grizzly, Nye, and Ward Creeks. All of the sample locations had sufficient surface water to sample. Laboratory results are pending.

SUMMARY:

A semiannual 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.

RECOMMENDATIONS:

An experience underground mine contractor should be hired to inspect the timbered section and the unsupported section of the 700 level adit for signs of ground support deterioration. Furthermore, while the 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, there is some potential risk that the valves cannot be completely closed after being opened.



JEFF HUGGINS

Water Resources Control Engineer

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

13 November 2013

DISCHARGER: Walker Mine, Abandoned and Unclaimed Private Property

LOCATION & COUNTY: Plumas County

CONTACT(S): Central Valley Water Board, Jeff Huggins

INSPECTION DATE: 5 November 2013

INSPECTED BY: Jeff Huggins, Water Resources Control Engineer

ACCOMPANIED BY: Vino Jain and Ben Lehman, Central Valley Water Board staff

COMMENTS:

On 5 November 2013, Board staff performed the annual fall inspection of Walker Mine (photo 1) in Plumas County as required by the Walker Mine Operations and Maintenance Procedures (June 1997).

AREAS INSPECTED:

Former Concentrator Plant Foundations:

An inspection of the former concentrator plant area was made as shown in photos 2-11 of the attached photo-log. The formation of copper oxides was observed throughout the area on the concrete ruins and in residual mining waste material in and below the concentrator plant foundations. Copper oxides become soluble in water and pose a threat to water quality by means of flushing during winter rains and snowmelt. In general, little vegetation which might help to control erosion of mining waste was observed on the exposed mining waste within and near the concentrator plant ruins.

1921 to 1927 Period Tailings Facility:

Staff also inspected the former 1920s period tailings area located below the Walker Mine and Mill area (see photos 11-18). A settling pond (photos 13-14) collects runoff from the slope below the former mine and mill area. The pond never completely fills, but it is suspected to indirectly discharge to Dolly Creek via a buried drainage structure or through the fill material. The tailings material shown in photos 15-18 is sparsely vegetated and copper oxides were observed in the drainages shown in photos 15-18.

Portal Area:

The drainage channel between the mine portal and the waste dump was open and flowing at about 0.5 gallons per minute. The portal door (photo 19) at the 700 level adit had been tampered with by vandals which made the door difficult to open, but it was still securely locked upon our arrival.

Ventilation Fan:

Staff rented a portable generator for the ventilation fan, which is needed for the underground inspection. This fan provides fresh air through the ventilation duct all the way to the mine seal. Underground ventilation is needed to provide a flow of air to the underground workings of sufficient volume to dilute and remove noxious gases and provide fresh air for staff. The ventilation system was

Approved: *VJA*

Inspection ID# 14436452

WDID #5A320704003

allowed to run for approximately 1.5-hours before entry was made into the 700 level adit. This arrangement results in fresh air continually being pushed towards the mine seal and perceptible airflow into the inspectors face as you advance into the 700 level adit.

Seal Pressure:

The first task of the inspection was to download the mine seal pressure data from the Telog data recorder (photos 20-21) located 180 feet into the 10-foot diameter corrugated metal pipe section of the adit. The Telog data recorder is connected via a 2,500-foot long electronic cable to a Druck pressure transmitter at the mine seal. Three times per day the data recorder measures (and then averages the daily measurement) and stores an electronic current measurement (mAmps) from the Druck pressure transmitter. This data is converted mathematically by Board staff to feet of head on the mine seal¹. When downloading the data logger, staff discovered that from August 19th to August 21st, electronic current measurement from the pressure transmitter fell from 6.92 to 4 mAmps, which likely represents a failure of the pressure transmitter. The data also indicated that a maximum head of 141-feet occurred on the mine seal during the period of June 4th through June 14th, 2013.

Corrugated Metal Pipe:

The drainage channel inside the corrugated section of the mine tunnel was working effectively and was not obstructed. No corrosion, significant seepage, deflection, or physical damage was observed in the corrugated metal pipe section of the 700 level adit.

Timbered Section:

The timbered section of the 700 level adit was open and clear. The conditions in this section were wet and the liquid appear to be from the infiltration of shallow groundwater from the hillside directly above the timber supported section (first 900 feet) of the 700 level adit. No major support problems were observed. However, a number of the timber sets, lagging, and blocking are showing signs of significant decay and need to be replaced.

Unsupported Section:

No scaling was necessary in the unsupported section of the 700 level and no signs of recent rockfall were noted. Water seepage observed in the unsupported section of the adit was minimal; however a small pool of water was noted for the first time on the left-hand side of the adit near the 1600 foot station (photo 22).

Mine Seal, Piping and Valves

Conditions at the mine seal are shown in photos 24-28. The pressure gauge read nearly 50 psi, which indicates a head of approximately 115 feet over the mine seal. Water seepage from around the mine seal and pooled water conditions at the base of the mine seal appeared to be unchanged since July of 2010. Seepage appears to come from the crown of the seal and along both sides. Iron precipitate is evident on the face of the mine seal (photo 24) but does not appear to be significantly different than that shown in the *Walker Mine Seal Testing and Evaluation Report* (GEI Consultants, 1 March 2002). The piping and valves were uncovered (photo 26) and inspected. No seepage or significant changes in corrosion were noted. The valves were not tested due to concern that they may not close completely if opened. Samples of the water pooled at the base of the seal (monitoring location #30) were collected for laboratory analysis. Staff then exited the 700 level adit and securely locked the portal door.

¹ (Note: The Druck pressure sensor is scaled to transmit 4 to 20 mAmps which equates to 0 to 300 feet of head).

Central Ore-Body Subsidence Area:

Inspection of the Central ore body area was made later in the afternoon (see photos 28-34). The primary mining related features in this area consist of the subsidence areas caused by sublevel mining below the Central ore body, several small mining waste piles, and a ventilation shaft located near the top of the hill north of the Central ore body. The subsidence areas act as a natural funnel to transmit precipitation to the underground workings, which in turn increases the hydrostatic pressure on the mine seal, which was installed to stop the discharge of acid mine drainage from the Walker Mine. Staff also inspected the concrete lined diversion ditches, constructed on behalf of the Central Valley Water Board in the early 2000's, which are intended to reduce the amount of surface water runoff during snowmelt periods to the subsidence areas. The diversion ditches were relatively clean of debris, but contained no water at the time of our inspection.

In a brief examination of the mining waste piles located near the Central ore body location, some copper oxide formation was observed as shown in photos 32-33. As noted above, copper oxides become soluble in water and pose a threat to water quality by means of flushing during winter rains and snowmelt. Finally, we located an open ventilation shaft near the top of the hill north of the Central ore body. The ventilation shaft appears to drop approximately 50 vertical feet before dipping at an angle of about 30 degrees to the east to some unknown depth. Coordinates for the shaft were recorded and will be mapped for future reference. The open shaft is an obvious safety hazard and should be closed so that it no longer poses a physical hazard.

Walker Mine Tailings Facility:

Board staff also inspected and obtained water samples from in and around the Walker Mine tailings facility (see photos 35-39) located on adjacent public lands administered by the United States Department of Agriculture Forest Service (USFS). Copper oxides continue to be observed on large boulders (photo 36) just above the Dolly Creek diversion head-works located just east of the Walker Mine tailings. The tailings, shown in photos 37-39, are sparsely vegetated and wind-blown erosion of the tailings continues pose a threat to water quality.

Water Quality Monitoring:

Surface water samples were collected from Dolly, Little Grizzly, Nye, and Ward Creeks. Most of the sample locations had sufficient surface water to sample. Laboratory results are pending.

SUMMARY:

A semiannual inspection was made of the Walker Mine site. Surface water sampling was performed and water pressure measurements on the mine seal were obtained. The pressure transmitter for the Walker Mine seal appears to have failed on or about August 19th and a new pressure transmitter needs to be purchased and installed during the spring 2014 inspection.

RECOMMENDATIONS:

An experience underground mine contractor should be hired to inspect the timbered section and the unsupported section of the 700 level adit for signs of ground support deterioration. Furthermore, while the 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, there is some potential risk that the valves cannot be completely closed after being opened.



JEFF HUGGINS

Water Resources Control Engineer

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

INSPECTION REPORT

13 November 2013

DISCHARGER: Walker Mine, Abandoned and Unclaimed Private Property

LOCATION & COUNTY: Plumas County

CONTACT(S): Central Valley Water Board, Jeff Huggins

INSPECTION DATE: 5 November 2013

INSPECTED BY: Jeff Huggins, Water Resources Control Engineer

ACCOMPANIED BY: Vino Jain and Ben Lehman, Central Valley Water Board staff

COMMENTS:

On 5 November 2013, Board staff performed the annual fall inspection of Walker Mine (photo 1) in Plumas County as required by the Walker Mine Operations and Maintenance Procedures (June 1997).

AREAS INSPECTED:

Former Concentrator Plant Foundations:

An inspection of the former concentrator plant area was made as shown in photos 2-11 of the attached photo-log. The formation of copper oxides was observed throughout the area on the concrete ruins and in residual mining waste material in and below the concentrator plant foundations. Copper oxides become soluble in water and pose a threat to water quality by means of flushing during winter rains and snowmelt. In general, little vegetation which might help to control erosion of mining waste was observed on the exposed mining waste within and near the concentrator plant ruins.

1921 to 1927 Period Tailings Facility:

Staff also inspected the former 1920s period tailings area located below the Walker Mine and Mill area (see photos 11-18). A settling pond (photos 13-14) collects runoff from the slope below the former mine and mill area. The pond never completely fills, but it is suspected to indirectly discharge to Dolly Creek via a buried drainage structure or through the fill material. The tailings material shown in photos 15-18 is sparsely vegetated and copper oxides were observed in the drainages shown in photos 15-18.

Portal Area:

The drainage channel between the mine portal and the waste dump was open and flowing at about 0.5 gallons per minute. The portal door (photo 19) at the 700 level adit had been tampered with by vandals which made the door difficult to open, but it was still securely locked upon our arrival.

Ventilation Fan:

Staff rented a portable generator for the ventilation fan, which is needed for the underground inspection. This fan provides fresh air through the ventilation duct all the way to the mine seal. Underground ventilation is needed to provide a flow of air to the underground workings of sufficient volume to dilute and remove noxious gases and provide fresh air for staff. The ventilation system was

Approved:

VJA

Inspection ID# 14436452

WDID #5A320704003

allowed to run for approximately 1.5-hours before entry was made into the 700 level adit. This arrangement results in fresh air continually being pushed towards the mine seal and perceptible airflow into the inspectors face as you advance into the 700 level adit.

Seal Pressure:

The first task of the inspection was to download the mine seal pressure data from the Telog data recorder (photos 20-21) located 180 feet into the 10-foot diameter corrugated metal pipe section of the adit. The Telog data recorder is connected via a 2,500-foot long electronic cable to a Druck pressure transmitter at the mine seal. Three times per day the data recorder measures (and then averages the daily measurement) and stores an electronic current measurement (mAmps) from the Druck pressure transmitter. This data is converted mathematically by Board staff to feet of head on the mine seal¹. When downloading the data logger, staff discovered that from August 19th to August 21st, electronic current measurement from the pressure transmitter fell from 6.92 to 4 mAmps, which likely represents a failure of the pressure transmitter. The data also indicated that a maximum head of 141-feet occurred on the mine seal during the period of June 4th through June 14th, 2013.

Corrugated Metal Pipe:

The drainage channel inside the corrugated section of the mine tunnel was working effectively and was not obstructed. No corrosion, significant seepage, deflection, or physical damage was observed in the corrugated metal pipe section of the 700 level adit.

Timbered Section:

The timbered section of the 700 level adit was open and clear. The conditions in this section were wet and the liquid appear to be from the infiltration of shallow groundwater from the hillside directly above the timber supported section (first 900 feet) of the 700 level adit. No major support problems were observed. However, a number of the timber sets, lagging, and blocking are showing signs of significant decay and need to be replaced.

Unsupported Section:

No scaling was necessary in the unsupported section of the 700 level and no signs of recent rockfall were noted. Water seepage observed in the unsupported section of the adit was minimal; however a small pool of water was noted for the first time on the left-hand side of the adit near the 1600 foot station (photo 22).

Mine Seal, Piping and Valves

Conditions at the mine seal are shown in photos 24-28. The pressure gauge read nearly 50 psi, which indicates a head of approximately 115 feet over the mine seal. Water seepage from around the mine seal and pooled water conditions at the base of the mine seal appeared to be unchanged since July of 2010. Seepage appears to come from the crown of the seal and along both sides. Iron precipitate is evident on the face of the mine seal (photo 24) but does not appear to be significantly different than that shown in the *Walker Mine Seal Testing and Evaluation Report* (GEI Consultants, 1 March 2002). The piping and valves were uncovered (photo 26) and inspected. No seepage or significant changes in corrosion were noted. The valves were not tested due to concern that they may not close completely if opened. Samples of the water pooled at the base of the seal (monitoring location #30) were collected for laboratory analysis. Staff then exited the 700 level adit and securely locked the portal door.

¹ (Note: The Druck pressure sensor is scaled to transmit 4 to 20 mAmps which equates to 0 to 300 feet of head).

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Water Quality Monitoring:

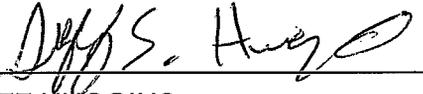
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