Corona Mercury Mine Tracer Test

Greg Reller
Burleson Consulting
www.burlesonconsulting.com

Tim Tsukamoto
TKT Consulting, LLC
tktconsultingllc.com
Acknowledgments:

This project is funded by the State of California’s Ecosystem Restoration Program through Proposition 84 with the Department of Fish and Wildlife as its implementing agency.

Tuleyome (a non profit land trust) is implementing this project to treat ongoing drainage of water from underground mercury mine workings at the Corona Mine in the Inner Coast Range. This is a unique collaboration among a private landowner, public open space district, and non-profit organization. *Tuleyome acknowledges the State of California, the Ecosystem Restoration Program and its implementing agencies, DFG, for their financial support.*

Project Team Members include Dr. Vic Claasen, Dr. Peter Green, Ms. Sara Husby, Ms. Beth Kelly JD, Mr. Michael Lezeau JD, Dr. Stephen McCord, Dr. Darrel Slotton, Mr. Justin Smith, and Dr. Tim Tsukamoto.
Sandstone and Shale

Drain Tunnel

Calcine Tailings

Kidd Creek

Pit and Collapsed Workings at Surface

Boilerhouse Portal Infiltration Trench

Waste Rock
Linear Regression for Sulfa-Rhodamine Standards 125 µg/L to 3.91 µg/L.
First Arrival: 3.7 hours
Peak: 21 hours

Peak Passing: 91.1 hours (3.8 days)

Trailing Edge: 1,221 hours (50.8 days)
IW1 Test 2: Boiler House Portal

Date
10/12/2016  10/16/2016  10/20/2016  10/24/2016

Tracer Concentration (ppb)
0
5
10
15
20
25

First Arrival: 72.6 hours
Peak: 100 hours
Peak Passing: 239 hours (10 days)
Trailing Edge: 331 hours (13.8 days)
IW1 Test 2: Drain Tunnel

First Arrival: 58 hours
Peak: 99 hours
Peak Passing: 186 hours (7.75 days)
Trailing Edge: 281 hours (11.7 days)
First Arrival: 38.5 hours

Peak and other arrival times unknown
Tracer Test Results:
1. Confirm that water released at the upper mine workings flows to the drain tunnel
2. Show that travel times vary with release location
3. Allow estimation of reagent dosing rates for subsurface chemical amendment
Questions?