



PORTER / CAL-WESTERN

Lic. #247908

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Sonora, California 95370
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QUOTE 98-007

JUNE 30, 1998

**TO: ODDFELLOWS SIERRA PARK
POST OFFICE BOX 116
LONG BARN, CA. 95335**

FOR: 210,000 GALLON POTABLE WATER TANK (INTERIOR COATING)

Inspection Report: On June 30, 1998 Porter/Cal-Western inspected the interior of the above tank. This tank is about 20 years old and is constructed of 8 ga. Grade 58 steel welded butt joints. It has one 120 degree top vent (screened) and one top hatch (bolted type) and one man entry (port entry type) in the front side. This tank is bottom loaded with a 4" (infeed double valved) apx. 12" off bottom.

Visual from entry on interior ladder revealed serious rusting around top hatch. Ferrous Oxide deeply imbedded at each weld on rafter seat and at (Hat) where rafters meet in the center of the roof. A general field of ferrous oxide is present on entire ceiling and random areas on walls. The floor was not accessed as there was more than 12 ft. of water still in tank.

The coating is a single component bitumen. This coating has become hydro-trophic (has begun to digest in the water translating into a slight lamp black hue when exposed to a shaft of light) Some release of VOC (Volatile Organic Compounds) into the water is being introduced but at what levels is unknown. I personally do not think at this point there is cause for alarm but with the passing of time it will get worse. This type of coating no longer meets Potable Water Standards for the State of California. Removal is recommended and the re-coating with a NSF Certified Interlink Epoxy.

Top load: It is recommended that this tank be top loaded with a 4" feed line. A chlorine injection system can be installed at that time if needed.

Rear Hatch: Before work could begin another hatch needs to be installed on the rear of the tank for safety concerns and proper maintenance/inspections.

Top Rim Vents: The installation of screened vents around the top of the tank in 8 locations (768 sq. inches) This causes a cross flow of fresh air across the surface of the water and results in sweeter water and less chance of bacteria/rusting rafters/etc.

Sludge Valve: A sludge valve is needed at 2 inches off the bottom. This gives access to the Health Department for testing for buildup sludge in the bottom of the tank. It also saves the complete draining of the tank to make buildup inspection.

New Gaskets and Stainless Bolts: Are needed on final bolt up.

Taps: Two 1/2" inspection valves are needed. One on the tank for testing free chlorine levels (residual) in the tank proper and one on the raw water before chemical injection on the top feed pipe for Bac-Ts.

Reinforce rafter wall supports: The angular welded rafter supports are seriously rusted at the weld. This brings into question the remaining strength of these supports. They need to be drilled and bolted through the wall of the tank above the water level. Stainless steel bolts are used .

Bottom of Tank: We have been coating all floors of water tanks with a proven product developed by Chevron Oil Company. It is called CIM 1061 a "Potable Water Plastosized Hydrocarbon Elastomer Urethane" A high tec rubber coating that stretches 6 times its own length. It is used extensively in the water and water containment industry. The bottom of the tank can literally rust out from the bottom and still hold water. In earthquakes welds often spit and cause serious leaks. This greatly reduces the risk of post seismic leaks. It is also very sanitary. Used by USFS, National Park Service, Merced Irrigation District, Tuolumne Utility District, Dodge Ridge Ski Lodge, Columbia Jr. College.

What we propose to you to do:

- 1) Open up and install any mechanical changes mentioned above you may choose
- 2) Sandblast to clean substrate
- 3) Reinforce rafter rest points
- 4) Repair any holes that may show up
- 5) Coat ceiling and walls with NSF epoxy coating
- 6) Coat the floor and up the wall with rubber coating CIM1061
- 7) Ventilate (provide ventilators and all electric power)
- 8) Disinfect and bolt up
- 9) Furnish certificate to you and the TCHD. For compliance
- 10) Provide all permits and certificates

THE ESTIMATED COST FOR THE ENTIRE PACKAGE IS: \$18,845.00

IF YOU HAVE ANY QUESTIONS DON,T HESITATE TO CALL....REFERENCES ETC.

Approximate amount of materials: 80 gallons of Epoxy—60 gallons of rubber

Time: allow two weeks of down time

We warranty the tank for 10 years and guarantee it to pass all health codes upon completion.

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