www.goodwestlining.com GOODWEST Linings & Coatings CA LIC # 313665_ NV LIC # 74427_
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Lining Inspection Report & Summary of Repairs

Tank Description: Anion Vessel SA14171PA
Existing Lining: Natural Rubber, approx. 3/16" thick
Application: Ion Exchange Unit

Lining Inspection Findings:
-Holiday test performed using Tinker & Rasor Model AP/W high voltage spark tester at 17,000 volts. Holiday test revealed 1 ea. pinhole leak on floor of tank, 6ea. pinholes / gouges throughout tank walls and 1ea. large area of defective rubber (8' x 7', after peeling back all defective rubber) on top head.
-Slight steel corrosion noticed on top head.
-No steel corrosion visible at other leaks.
-Overall lining condition is satisfactory. Outer layer of rubber is 60-70 shore A durometer.
-Aside from the large area on top head and other isolated leaks, rest of lining is in satisfactory condition.

Analysis:
Extensive lining damage on top head lead to the assumption of the leak originating at the small diameter nozzle located in the center. This was likely the entry point for water to get behind the lining and the failure spread from there. Pinhole leaks found indicate that water has permeated the lining at the molecular level and reached through to substrate. The steel is still protected from corrosion because it is not in contact with oxygen or chemicals, but this is an indication that the lining is beginning to reach its lifespan.

Summary of Repairs
The 1ea. pinhole leak on floor, the 6ea. pinhole leaks on the wall and the 1ea. large area on the top head were excavated. The exposed steel and entire repair location was cleaned with toluene solvent. The exposed steel was primed and cement applied over entire repair area. On the smaller repairs, a "fill" patch of NRL 95-65C was applied to cover the exposed steel and create an even surface for the "overlay" patch of NRL 95-65C. The overlay patches were approx. 6" in diameter. After applying the repair patches, two coats of chemical curing agent was applied to all patches. A holiday test at 17,000 volts was performed over all repair locations to verify that these locations were properly repaired and no further pinhole leaks were discovered.