



Bath County Water District
Means Tank
156K Gal. Standpipe (Glass-lined) Water Tank

To: BCWD
Copies: Horizon QC File
From: Mike Topp Horizon QC
Date: April 2021

On April 7, 2021, Horizon QC inspected the 156,000-gallon steel (Glass Lined) storage tank. The purpose of the inspection was to evaluate the exterior and interior, tank structure, sanitary conditions, and safety related issues. The tank's interior was inspected while in service.

This report summarizes Horizon QC's (Horizon's) observations and recommendations of the standpipe water storage tank (156K Glass Lined Water Storage tank). Photographs from this evaluation are provided in Attachment A.

BACKGROUND

Aquastore was the manufacturer and built by Kentucky Glass lined Tank Inc. The tank's dimensions are 25' in diameter and 42' Height. (Model 2262 - SN 8043533)

The tank is located in Bath Co, Kentucky. The tank site is situated off of gravel access road. The tank site is boarded by timber on all sides. The site is accessible by vehicles and has adequate parking.

OBSERVATIONS

Horizon QC (Horizon) visually inspected the water tank for corrosion related issues, obvious structural problems, and safety related problems. The inspection covered the interior and exterior portions of the tank. The interior of the tank was inspected while in service.

The following observations were noted: Condition Scale: Excellent – Good – Fair – Poor.

Interior

- Overall condition of the interior should be considered excellent.
- Interior concrete floor was covered with approximately 1-2 inches of sediment. No signs of any cracks or leaks.
- The perimeter of tank to base connection did not show any signs of leaks.
- No visible defects or damage to the glass found on the sidewall panels. Heavy staining found throughout most of the lower interior.
- No Random pinhole corrosion found on the sidewall sheet edge.
- Bolt heads are in excellent condition with adequate protection from the mastic. The mastic squeeze around the bolt heads has not deteriorated significantly.
- Sidewall is in excellent condition with mineral staining on the lower section.
- Interior man-way is in excellent condition without any corrosion along the inner edge.
- Interior inlet pipe is in excellent condition with minor corrosion on the coupler and sidewall supports.
- Interior outlet is in good condition with minor corrosion along edges.
- No interior ladder was found.
- Interior roof vent is in good condition. No signs of any defects or damage.
- Roof/sidewall seam do not have any visible signs of cracks, leaks or damage.
- Ceiling section is in good condition, a couple corrosion spots.
- Indicator float was functioning.
- No biological matter was seen inside the tank.

Exterior

- Overall condition can be considered excellent.
- Foundation is in excellent condition; no deterioration of the concrete. Vegetative growth has been kept low around the foundation.
- Base/sidewall seam is in excellent condition. No signs of leaks or cracks in the glass.
- The sidewall glass panels are in excellent condition.
- Sidewall bolt connections are in excellent condition.
- Sidewall panel sheet edge is in excellent condition.
- All hazard-warning signs are still present on the tank.
- Sidewall wind stiffener is in excellent condition. No visible signs of damage.
- Sidewall ladder is in excellent condition. No visible signs of damage.
- Roof Vent is in excellent condition. Screen in place and functional.
- Roof man way hatch is in excellent condition.
- Roof walkway and handrail is in excellent condition (aluminum). No signs of any damage.
- Roof panels are in excellent condition. No corrosion or damage was visible.
- Roof panel bolts and nuts have visible corrosion.
- Overflow pipe is in excellent condition (aluminum) no damage was visible.
- Sidewall man way (1 -24 inch) is in excellent condition, no corrosion on nuts/bolts.
- Site perimeter is clean and properly maintained with vegetation kept low.

Recommendations

Interior

At present the protective glass coated and mastic lining systems that exists throughout the interior remains in excellent condition. The glass lining and mastic coating are providing adequate protection to the steel substrate.

No remediation of the tank is required at this time.

System officials should consider the following in 5 years:

1. Interior washout to remove sediment.
2. Spot repair any corrosion spots.
3. Install new sacrificial anodes.

Exterior

At present the exterior glass lined system is in excellent condition with an adequate amount of protection to the underlying substrate.

Horizon recommends the following in the 5 years

1. A complete exterior inspection of the Glass lining, Mastic Coating and Level Indicator Board, Safety Components, Ladders and Foundation.



Bath County Water District
Olympia Tank
234K Gal. Standpipe (Glass-lined) Water Tank

To: BCWD
Copies: Horizon QC File
From: Mike Topp Horizon QC
Date: April 2021

On April 7, 2021, Horizon QC inspected the 234,000-gallon steel (Glass Lined) storage tank. The purpose of the inspection was to evaluate the exterior and interior, tank structure, sanitary conditions, and safety related issues. The tank's interior was inspected while in service.

This report summarizes Horizon QC's (Horizon's) observations and recommendations of the standpipe water storage tank (234K Glass Lined Water Storage tank). Photographs from this evaluation are provided in Attachment A.

BACKGROUND

Aquastore was the manufacturer and built by Kentucky Glass lined Tank Inc. The tank's dimensions are 31' in diameter and 42' Height. (Model 3142 - SN 8061096)

The tank is located in Bath Co, Kentucky. The tank site is situated off of gravel access road. The tank site is boarded by timber on all sides. The site is accessible by vehicles and has adequate parking.

OBSERVATIONS

Horizon QC (Horizon) visually inspected the water tank for corrosion related issues, obvious structural problems, and safety related problems. The inspection covered the interior and exterior portions of the tank. The interior of the tank was inspected while in service.

The following observations were noted: Condition Scale: Excellent – Good – Fair – Poor.

Interior

- Overall condition of the interior should be considered excellent.
- Interior concrete floor was covered with approximately 1-2 inches of sediment. No signs of any cracks or leaks.
- The perimeter of tank to base connection did not show any signs of leaks.
- No visible defects or damage to the glass found on the sidewall panels. Heavy staining found throughout most of the lower interior.
- No Random pinhole corrosion found on the sidewall sheet edge.
- Bolt heads are in excellent condition with adequate protection from the mastic. The mastic squeeze around the bolt heads has not deteriorated significantly.
- Interior man-way is in excellent condition with minor corrosion on the edges.
- Interior inlet pipe is in excellent condition with minor corrosion on the coupler and sidewall supports.
- Interior outlet is in good condition with minor corrosion along edges.
- No interior ladder.
- Interior roof vent is in good condition. No signs of any defects or damage.
- Roof/sidewall seam do not have any visible signs of cracks, leaks or damage.
- Ceiling section is in good condition, a couple corrosion spots on the ceiling supports.
- Indicator float was functioning.
- No biological matter was seen inside the tank.

Exterior

- Overall condition can be considered excellent.
- Foundation is in excellent condition; no deterioration of the concrete. Vegetative growth has been kept low around the foundation.
- Base/sidewall seam is in excellent condition. No signs of leaks or cracks in the glass.
- The sidewall glass panels are in excellent condition. Moderate mildew staining on lower sidewall
- Sidewall bolt connections are in excellent condition.
- Sidewall panel sheet edge is in excellent condition.
- All hazard-warning signs are still present on the tank.
- Sidewall wind stiffener is in excellent condition. No visible signs of damage.
- Sidewall ladder is in excellent condition. No visible signs of damage.
- Roof Vent is in excellent condition. Screen in place and functional.
- Roof man way hatch is in excellent condition.
- Roof walkway and handrail is in excellent condition (aluminum). No signs of any damage.
- Roof panels are in excellent condition. No corrosion or damage was visible.
- Roof panel bolts and nuts have visible corrosion.
- Overflow pipe is in excellent condition (aluminum) no damage was visible.
- Sidewall man way (1 -24 inch) is in excellent condition, no corrosion on nuts/bolts.
- Site perimeter is clean and properly maintained with vegetation kept low.

Recommendations

Interior

At present the protective glass coated and mastic lining systems that exists throughout the interior remains in excellent condition. The glass lining and mastic coating are providing adequate protection to the steel substrate.

No remediation of the tank is required at this time.

System officials should consider the following in 5 years:

1. Interior washout to remove sediment.
2. Spot repair any corrosion spots
3. Install new sacrificial anodes.

Exterior

At present the exterior glass lined system is in excellent condition with an adequate amount of protection to the underlying substrate.

Horizon recommends the following in the 5 years

1. Power wash exterior to remove mildew staining.
2. A complete exterior inspection of the Glass lining, Mastic Coating and Level Indicator Board, Safety Components, Ladders and Foundation.



Bath County Water District
Ore Mines Tank
250K Gal. Welded Steel Storage Tank

To: Bath County Water District

Copies: Horizon QC File

From: Mike Topp Horizon QC

Date: April 2021

On April 6, 2020, Horizon QC inspected the 250,000-gallon steel ground storage tank. The purpose of the inspection was to evaluate the exterior and interior coatings, tank structure, sanitary conditions, and safety related issues. The tank's interior was inspected while in service.

This report summarizes Horizon QC's (Horizon's) observations and recommendations of the ground water storage tank (250K Gal. Ground Storage Tank). Photographs from this evaluation are provided in Attachment A.

BACKGROUND

The Ore Mines Tank dimensions are 24' in diameter and 43' tall. The tank was built in 1988. Tank repairs/touch up was done last in 2012.

The tank is located in Bath Co, Kentucky. The tank site is situated off of paved county road. The tank site is boarded on three sides with fields and is fenced. The site is accessible by vehicles and has adequate parking.

OBSERVATIONS

Horizon QC (Horizon) visually inspected the water tank for coating related issues, obvious structural problems, and safety related problems. The inspection covered the interior and exterior portions of the tank. The interior of the tank was inspected while in service. The following observations were noted: Condition Scale: Excellent-Good-Fair-Poor.

Interior

- Overall condition of the interior should be considered good/fair. Random pinhole corrosion found throughout the interior.
- Interior Floor is in good/fair condition with approximately 1" or less of sediment. Spot corrosion is random throughout the floor. Pit depth appears to be shallow.
- Interior Sidewalls are in good/fair condition with random pinhole corrosion found primarily on the seams and the sheets on the upper section. Pinhole depth is shallow in appearance. The upper and lower sidewalls have fewer spots. Wire connection in lower sidewall has resulted in corrosion in the pass-through spot.
- Ceiling portions of the tank should be considered good with a few random corrosion spots along the seams.
- Inlet/outlet pipe is attached to the lower sidewall is in good condition with random corrosion spots
- Interior roof vent in good condition with minor spot corrosion.
- Interior Ladder is in fair/poor condition. Random corrosion spots including the Ladder sidewall supports. Heavy corrosion on upper ladder rungs.
- Float is operational.
- Overflow Pipe is in excellent condition.
- Interior Man-way (1) have moderate corrosion along the edges and collar and panel portions. Manway plate has corrosion along its seams.
- 2012 coating touch up found randomly throughout the interior has visible coating blisters. (Solvent entrapment)
- Roof/Sidewall Seam has light corrosion on the lap seam.

Coatings test Interior

- Dry Film Thickness ranged from 8.4 – 10.5 mils.
- ASTM 3359 Adhesion testing (good adhesion) of protective coatings.

Exterior

- Over all condition of the exterior should be considered good with several small random areas of spot corrosion and heavy mildew.
- Base plates are in fair condition with a few spot areas of spot corrosion. The flexible sealant has deteriorated in some areas.
- Foundation is in good condition. No significant cracks or chips found.
- Sidewalls are in good condition with some random areas of corrosion to the substrate and heavy mildew on the bottom sheets.
- Sidewall man way hatch (1) 24" is in good condition with light corrosion on nuts, bolts.
- Roof portion of the tank is in good condition some small random areas of corrosion and coating deterioration from UV attack.
- Roof Vent is in good condition with minor corrosion found on the lower side. The screen is in place. (16" diameter).
- Overflow Pipe (8") is in good condition with some random spots of corrosion.
- Exterior Ladder is in good condition. Solar panel attached and restricting access to the roof.
- Site perimeter is in good condition with light vegetation on all four sides.
- Site is fenced and locked.
- Tank site was properly maintained.

Coatings Test Exterior

- Average DFT (dry film thickness) range was 11.3 to 13.4 mils.
- ASTM 3359 Adhesion testing (good adhesion) of protective coatings.
- Solvent Sensitivity Test-ASTM D5402 found exterior finish coat with a moderate/good resistance to MEK solvent

Recommendations

Interior

At present the interior coating system is in Good/Fair condition. The few random corrosion spots can be found throughout interior. These spots appear to be shallow in pit depth, but will likely increase in depth if not corrected in the next several of years. The following remediation is recommended: (1-3 years)

1. Power Wash to remove all sediment and stain.
2. Remove wire connection on Lower Sidewall and weld new plate.
3. Repair or replace the Interior Ladder.
4. Power Tool Clean: SSPC SP-3 all corrosion spots.
5. Apply three coats of immersion grade epoxy 15-20 mils DFT to spots.

Exterior

At present the exterior coating system is in Good condition with adequate protection to the substrate. UV attack has degraded the finish coating in areas throughout the exterior. Spot repair and over-coating should be considered the most cost-effective method for repairs.

The following remediation is recommended: (1-3 years)

6. Power Wash Exterior 3000psi min. to remove all loose material and debris.
7. Spot Repair cleaning SP 3 Power Tool Cleaning on all corrosion areas.
8. Spot Prime all cleaned areas (epoxy primer).
9. Apply full coat of Urethane Mastic.
10. Relocate the Solar Panel attached to the exterior ladder.



Bath County Water District
Owingsville Tank
100K Gal. Elevated Water Tank

To: BCWD
Copies: Horizon QC File
From: Mike Topp Horizon QC
Date: April 2021

On April 6, 2021, Horizon QC inspected the 100,000-gallon steel (Elevated) storage tank. The purpose of the inspection was to evaluate the exterior and interior coatings, tank structure, sanitary conditions, and safety related issues. The tank's interior was inspected while in service.

This report summarizes Horizon QC's (Horizon's) observations and recommendations of the (100K Gal. Elevated Tank). Photographs from this evaluation are provided in Attachment A.

BACKGROUND

The Owingsville Tank is 100' to the overflow.
The tank was built in 1988 by Caldwell Tanks No. E-2594

The tank is located in Bath Co, Kentucky. The tank site is situated off of an unimproved road. The tank site is boarded by Residential Property. The site is accessible by vehicles and has adequate parking.

OBSERVATIONS

Horizon QC (Horizon) visually inspected the water tank for coating related issues, obvious structural problems, and safety related problems. The inspection covered the interior and exterior portions of the tank. The interior of the tank was inspected while in service.

The following observations were noted by: Condition Scale - Excellent-Good-Fair-Poor.

Interior

- Overall condition of the interior coating system should be considered Fair/Poor. Minor pinhole corrosion found throughout the interior.
- Interior Floor coatings are in Fair condition with random areas of pinhole corrosion. Pit depth appeared to be shallow, less than 1/8 inch.
- Interior Sidewall coatings are in Fair/Poor condition with widespread areas of pinhole corrosion along the sidewall. Moderate mineral staining can be found on the lower sidewall sheets. Corrosion appears to be shallow in depth.
- Ceiling coating system of the tank should be considered Fair with random spots of pinhole corrosion on the seams and ceiling sheets. Corrosion appears to be shallow in depth.
- Interior Roof man-way hatch has corrosion present on the edges and weld seams.
- Riser Pipe coating system is in Fair condition with minor corrosion spots found randomly throughout.
- Riser Ladder is in Fair condition with minor corrosion on safety supports. Coating system should be considered in fair condition with random pinhole corrosion.
- Interior Roof vent is in Good condition with moderate corrosion on the weld to the ceiling and its interior.
- Interior Ladder is in Fair condition, with corrosion visible on all sections of the Ladder. Corrosion appears to be shallow in depth.
- Flock sediment was less than two inches.
- Overflow Weir Box is in Fair condition with minor areas of spot corrosion and staining. The overflow pipe weir box is in fair condition with minor corrosion on most of the surface.
- Float Level Indicator is not operational.
- Dry film thickness – 10.4 -12.3 mils.
- No biological material was visible.

Exterior

- Overall condition can be considered Good. Minor spot failure and moderate mildew found randomly over the tank.
- Foundation is in Good condition; no deterioration of the grout. Some small chips have been knocked off of the corners due to mechanical damage. Vegetative growth has been kept low around the foundation.
- Base Plates are in Good condition showing minor corrosion around edges.
- Anchor Bolts are tight and in Good condition with minor corrosion on its edges.
- The Riser is in Good condition.
- Riser Man-way (24 inch) is in Good condition, minor corrosion on most nuts/bolts and moderate mildew staining.
- The Leg Columns are in Good condition with minor mildew staining.
- Belly sheets are in Good condition with moderate mildew staining. A couple random corrosion spots are visible.
- The tank's Balcony is in Good condition with minor areas of coating spot failure to the substrate. Antenna attached to handrail.
- Sidewalls are in Good condition with minor mildew staining. A few random corrosion spots.
- Roof portion of the tank is in Fair condition with minor mildew staining. Some coating delamination on the knuckle portion of the roof.
- Roof Man-way Hatch and Collar to the interior has minor corrosion on its hinges.
- Roof Vent is in Good condition with minor corrosion around the screen and small areas of spot failure.
- Overflow Pipe is in Good condition. Screen is partially attached to the flapper valve. Light corrosion on the flange portion.
- Struts, rods, and turnbuckles are in Good condition with minor mildew staining and minor spot corrosion.
- Exterior ladder is in Good condition with a few areas of pinhole corrosion and abrasions to the coating system.

- Ladders/cable line/safety climb accessories are in Good condition.
- Exterior DFT (dry film thickness) range is 11.2-13.5 mils.
- Discharge Basin is in Good condition, with vegetation in the vicinity kept low.
- Site perimeter is clean and properly maintained with vegetation kept low.

Lab Testing (Exterior)

- Solvent Sensitivity Test-ASTM D5402 found exterior finish coat with a moderate resistance to MEK solvent.
- Adhesion Test- ASTM D3359 adhesion test was conducted on the exterior portions of the tank. Scale 0 = poor adhesion & 5 = good adhesion, adhesion to the substrate is fair to good a 3-4 rating.

Recommendations

Interior

At present the interior coating system is in fair to poor condition without adequate protection to the steel substrate. The corrosion spots throughout the interior will only increase and deepen if repairs are not taken within the next 1-3 years. Due to the widespread corrosion and coating delamination, System Officials should consider a full abrasive blast on the interior and new three-part coating system. A new system should last 20-25 years.

No structural modifications or repairs need to be made at this time.

No safety related repairs needed at this time.

The following remediation is recommended: **(1-3 years)**

1. Surface Preparation - **SSPC SP-10 Near White Blast - 100% of the interior.**
2. Apply three coats of immersion grade **epoxy 15-20** mils DFT.
3. Remove Cathodic Protection

Exterior

At present the exterior coating system is in good condition with adequate protection to about 95% of the underlying substrate. Spot repair and cleaning should be considered the most cost-effective method for repairs. (1-3 years)

The following remediation is recommended: **(1-3 years)**

1. Power Wash Exterior 3000psi min. to remove all loose material and debris.
2. Spot Repair cleaning **SP 3 Power Tool Exterior**, Cleaning on all corrosion areas.
3. Spot Prime all cleaned areas (epoxy primer).
4. Apply Urethane Mastic **Overcoat** to the Exterior.
5. Install roof antenna corral.
6. Relocate antennas to corral.

7. Repair Indicator Board/ Float Assembly.



Bath County Water District
Perry Rd. Tank
100K Welded Steel (Standpipe) Storage Tank

To: Bath County Water District

Copies: Horizon QC File

From: Mike Topp Horizon QC

Date: April 2021

On April 7, 2020, Horizon QC inspected the 100,000-gallon steel (Standpipe) storage tank. The purpose of the inspection was to evaluate the exterior and interior coatings, tank structure, sanitary conditions, and safety related issues. The tank's interior was inspected while in service.

This report summarizes Horizon QC's (Horizon's) observations and recommendations of the ground water storage tank (100K Gal. Standpipe Tank). Photographs from this evaluation are provided in Attachment A.

BACKGROUND

The Perry Rd. Tank dimensions are 23'in diameter and 34'tall.

The tank is located in Bath Co, Kentucky. The tank site is situated off of paved county road. The tank site is boarded on three sides with fields and is fenced. The site is accessible by vehicles and has adequate parking.

OBSERVATIONS

Horizon QC (Horizon) visually inspected the water tank for coating related issues, obvious structural problems, and safety related problems. The inspection covered the interior and exterior portions of the tank. The interior of the tank was inspected while in service. The following observations were noted: Condition Scale: Excellent-Good-Fair-Poor.

Interior

- Overall condition of the interior should be considered good. Random pinhole corrosion found throughout the interior.
- Interior floor is in good condition with approximately 1” or less of sediment.
- Interior sidewalls are in good/fair condition with random pinhole corrosion found primarily on the seams and the sheets on the upper section. Pinhole depth is shallow in appearance. The upper and lower sidewalls have fewer spots.
- Ceiling portions of the tank should be considered good with a few random corrosion spots.
- Inlet pipe is attached to the lower sidewall is in good condition with random corrosion spots
- Outlet is attached to the floor is in good condition with random corrosion spots.
- Interior roof vent in good condition with minor spot corrosion.
- Interior ladder is in good/fair condition. Random corrosion spots including the Ladder sidewall supports. Heavy corrosion on upper ladder rungs.
- Float is operational.
- Overflow Pipe is in excellent condition.
- Interior man-way (1) have moderate corrosion along the edges and collar and panel portions.

Coatings test Interior

- Dry Film Thickness ranged from 9.4 – 12.5 mils.
- ASTM 3359 Adhesion testing (good adhesion) of protective coatings.

Exterior

- Over all condition of the exterior should be considered good with several small random areas of spot corrosion.
- Base plates are in fair condition with a few spot areas of spot corrosion. The flexible sealant has deteriorated in some areas.
- Foundation is in good condition. No significant cracks or chips found.
- Anchor bolts are in good condition with some small corrosion spots.
- Sidewalls are in good condition with some random areas of corrosion to the substrate and heavy mildew on the bottom sheets. A few areas are missing the finish coating.
- Sidewall man way hatch (1) 24" is in good condition with light corrosion on nuts, bolts.
- Roof portion of the tank is in good condition some small random areas of corrosion and coating deterioration from UV attack.
- Roof Vent is in good condition with minor corrosion found on the lower side. The screen is in place. (24" diameter).
- Overflow pipe (6") is in good condition with some random spots of corrosion.
- Exterior ladder is in good condition.
- Site perimeter is in good condition with light vegetation on all four sides.
- Site is fenced and locked.
- Tank site was properly maintained.

Coatings Test Exterior

- Average DFT (dry film thickness) range was 8.2 to 11.3 mils.
- ASTM 3359 Adhesion testing (good adhesion) of protective coatings.
- Solvent Sensitivity Test-ASTM D5402 found exterior finish coat with a moderate/good resistance to MEK solvent

Recommendations

Interior

At present the interior coating system is in Good condition. The few random corrosion spots can be found throughout interior. These spots appear to be shallow in pit depth, but will likely increase in depth if not corrected in the next several of years

The following remediation is recommended: (1-4 years)

1. Power Wash to remove all sediment and stain.
2. Power Tool Clean: SSPC SP-3 all corrosion spots.
3. Apply three coats of immersion grade epoxy 15-20 mils DFT to spots.

Exterior

At present the exterior coating system is in good condition with adequate protection to the substrate. UV attack has degraded the finish coating in areas throughout the exterior. Spot repair and over-coating should be considered the most cost-effective method for repairs.

The following remediation is recommended: (1-4 years)

4. Power Wash Exterior 3000psi min. to remove all loose material and debris.
5. Spot Repair cleaning SP 3 Power Tool Cleaning on all corrosion areas.
6. Spot Prime all cleaned areas (epoxy primer).
7. Apply full coat of Urethane Mastic.



Bath County Water District
Salt Lick Tank
500K Welded Steel Storage Tank

To: Bath County Water District

Copies: Horizon QC File

From: Mike Topp Horizon QC

Date: April 2021

On April 6, 2020, Horizon QC inspected the 500,000-gallon steel (Standpipe) storage tank. The purpose of the inspection was to evaluate the exterior and interior coatings, tank structure, sanitary conditions, and safety related issues. The tank's interior was inspected while in service.

This report summarizes Horizon QC's (Horizon's) observations and recommendations of the ground water storage tank (500K Gal. Standpipe Tank). Photographs from this evaluation are provided in Attachment A.

BACKGROUND

The Salt Lick Tank dimensions are 40' in diameter and 66' tall. The tank was built in 2004.

The tank is located in Bath Co, Kentucky. The tank site is situated off of paved county road. The tank site is boarded on three sides with fields and is fenced. The site is accessible by vehicles and has adequate parking.

OBSERVATIONS

Horizon QC (Horizon) visually inspected the water tank for coating related issues, obvious structural problems, and safety related problems. The inspection covered the interior and exterior portions of the tank. The interior of the tank was inspected while in service. The following observations were noted: Condition Scale: Excellent-Good-Fair-Poor.

Interior

- Overall condition of the interior should be considered poor. Widespread coating delamination and spot corrosion found throughout the interior.
- Interior floor is in good condition with approximately 1” or less of sediment. Heavy coating debris found on the floor.
- Interior sidewalls are in poor condition with spot corrosion found on the sidewall panels. Large sections of coating delamination/peeling between finish coating and primer coating. Pinhole depth is shallow in appearance.
- Ceiling (aluminum) portions of the tank should be considered excellent. No damage to the aluminum substrate.
- Inlet pipe is attached to the lower sidewall is in good condition with random corrosion spots. Coupler and Sidewall Supports have light corrosion.
- Outlet is attached to the floor is in good condition with random corrosion spots.
- Interior roof vent in excellent condition.
- No Interior ladder.
- Float is operational.
- Overflow Pipe is in excellent condition.
- Interior man-way (1) have moderate corrosion along the edges and collar and panel portions.

Coatings test Interior

- Dry Film Thickness ranged from 10.5 – 13.4 mils.
- ASTM 3359 Adhesion testing (poor adhesion) of protective coatings.

Exterior

- Over all condition of the exterior should be considered good with several small random areas of spot corrosion.
- Base plates are in fair condition with a few spot areas of spot corrosion. The flexible sealant has deteriorated in some areas.
- Foundation is in good condition. No significant cracks or chips found.
- Anchor bolts are in good condition with some small corrosion spots.
- Sidewalls are in good/fair condition with some random areas of corrosion to the substrate and heavy mildew. Coating delamination between finish coating and the intermediate. The steel substrate is not exposed.
- Sidewall man way hatch (1) 24" is in good condition with light corrosion on nuts, bolts.
- Roof portion of the tank is in good condition some small random areas of corrosion and coating deterioration from UV attack.
- Roof Vent is in good condition with minor corrosion found on the lower side. The screen is in place. (24" diameter).
- Overflow pipe (8") is in good condition with some random spots of corrosion.
- Exterior ladder is in good condition.
- Site perimeter is in good condition with light vegetation on all four sides.
- Site is fenced and locked.
- Tank site was properly maintained.

Coatings Test Exterior

- Average DFT (dry film thickness) range was 7.2 to 10.3 mils.
- ASTM 3359 Adhesion testing (good adhesion) of protective coatings.

- Solvent Sensitivity Test-ASTM D5402 found exterior finish coat with a moderate/good resistance to MEK solvent

Recommendations

Interior

At present the interior coating system is in poor condition. The coating delamination has exposed the underlying steel substrate. These areas now have visible spot corrosion throughout the tank. The delamination of the interior coatings was most likely caused by an incorrect mixing ratio or cold weather-related issue. The corrosion spots on the sidewall appear to be shallow in depth, but will likely increase if not corrected in the next several of years.

The following remediation is recommended: (1-2 years)

1. Abrasively remove all interior coatings: SSPC SP-10 all corrosion spots.
2. Apply three coats of immersion grade epoxy 15-20 mils DFT to spots.
3. Caulk Sidewall/Roof seam.

Exterior

At present the exterior coating system is in good condition with adequate protection to the substrate. UV attack has degraded the finish coating in areas throughout the exterior. The delamination of the finish coating on the lower sidewall has not resulted in any corrosion related issues.

Spot repair and over-coating should be considered the most cost-effective method for repairs.

The following remediation is recommended: (1-4 years)

4. Power Wash Exterior 3000psi min. to remove all loose material and debris.
5. Spot Repair cleaning SP 3 Power Tool Cleaning on all corrosion areas.
6. Spot Prime all cleaned areas (epoxy primer).
7. Apply full coat of Urethane Mastic.
8. Apply flexible sealant to the base.

