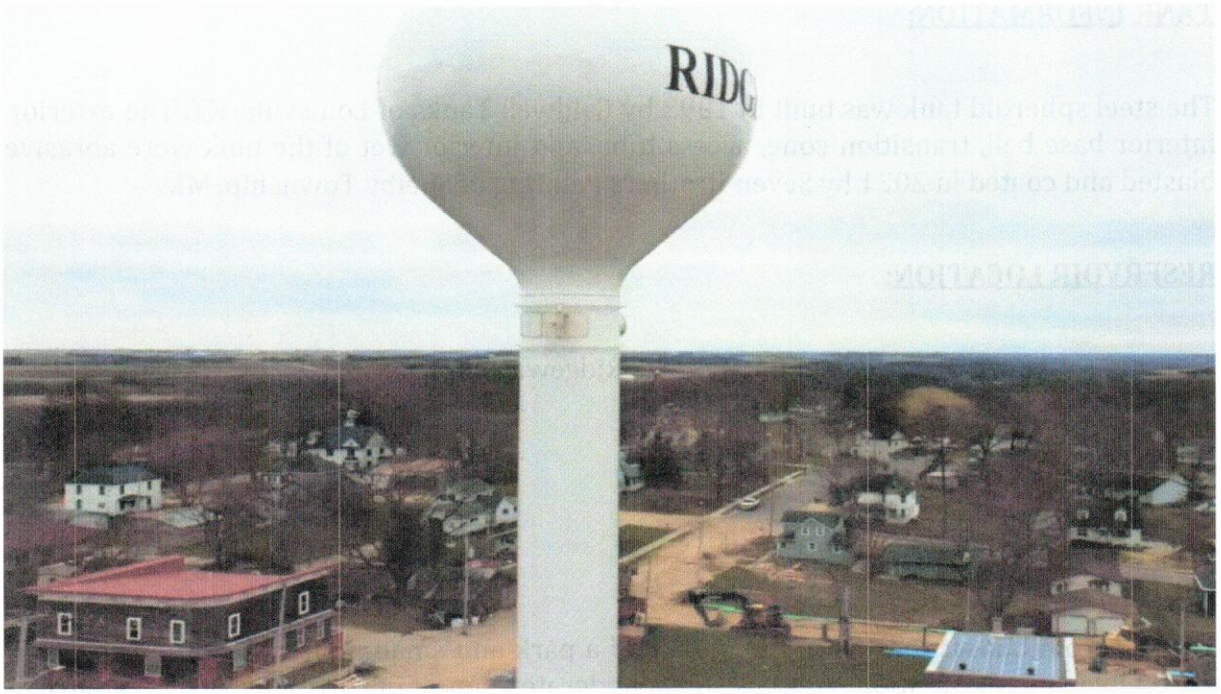
James Orr Coating Inspection LLC
1013 Valley Stream Dr.
Madison, WI 53711



ROV & Drone Maintenance Inspection

ROV Warranty Inspection

Ridgeway Tank, 150,000 Gallon Sphere

Ridgeway Water Utility, Ridgeway, WI

Inspection Performed on Wednesday, April 20, 2022

Inspection Performed by James Orr Coating Inspection, LLC

INSPECTION:

On Wednesday, April 20, 2022, James Orr Coating Inspection performed an ROV/Drone 1-Year Warranty Inspection on the 150,000 Gallon Water Spheroid owned by the Ridgeway Water Utility, Ridgeway, WI. The warranty inspection was performed to verify the performance of the coatings of 2021 water tank rehab project. The inspection was performed by Jessica Karpinski and Matt Griffin, Project Managers, and the inspection and report has been reviewed by James Orr, Owner of James Orr Coating Inspection, LLC.

TANK INFORMATION:

The steel spheroid tank was built in 1993 by Caldwell Tanks of Louisville, KY. The exterior, interior base bell, transition cone, access tube, and interior wet of the tank were abrasive blasted and coated in 2021 by Seven Brothers Painting of Shelby Township, MI.

RESERVOIR LOCATION:

The spheroid tank is located at 601 Main St., Ridgeway, WI.

CONDITIONS AND RECOMMENDATIONS:

SITE CONDITIONS:

The spheroid tank is located in the corner of a park and small industrial zone. The site is generally in good condition. There is still a moderate amount of corroding spent abrasive in the parking spots that house the machinery used during the renovation.

EXTERIOR FOUNDATION CONDITIONS:

The concrete of the foundation is in good condition. The grouting around the base of the tower is also in good condition.

EXTERIOR BASE BELL CONDITIONS:

The coating on the exterior base bell of the tank is in good condition. The additional small structure attached to the base of the tank is separating from the base bell. There appears to have been sealant used, but this is leaving ½" gaps around this structure. There is also a small collection of spent abrasive corroding near the overflow pipe.

EXTERIOR OVERFLOW PIPE CONDITIONS:

The coating on the exterior overflow pipe is in fair condition. Moderate surface corrosion is showing where the screen is bolted into the exit of the pipe. The 24 mesh screen is currently broken.

EXTERIOR RISER CONDITIONS:

The exterior riser is in good condition. Minor dirt accumulation is starting to occur.

EXTERIOR BOWL CONDITIONS:

The exterior bowl is in good condition. The coating and lettering is in very good condition.

EXTERIOR ROOF CONDITIONS:

The exterior roof coating is in good condition.

EXTERIOR ROOF HATCH CONDITIONS:

The roof hatches are in good condition. A rubber gasket is installed on the wet access hatch, but no gasket is installed on the dry access hatch. The dry access hatch has a lock present.

EXTERIOR ROOF VENT CONDITIONS:

The exterior roof vent is made of aluminum and is in good condition. The vent uses a typical frost free design.

EXTERIOR ROOF HANDRAIL CONDITIONS:

The exterior roof handrail and antennas are in good condition.

BASE BELL DOOR CONDITIONS:

The base bell door is in good working order and has a functioning lock. Corrosion has formed on the door hinges and in several spots on the inside of the door where coating has been rubbed off.

INTERIOR BASE BELL CONDITIONS:

The coating in the interior base bell is in good condition. There is a fair amount of miscellaneous items laying on the floor that should be removed. A small pallet is currently being used as the interior step into the base bell. All electrical and telecom equipment appears to be in working condition although several wires are loosely run across the floor.

INTERIOR FILL/DRAW PIPE CONDITIONS:

The interior fill/draw pipe is in good condition. The foam insulation is beginning to deteriorate in several locations.

INTERIOR SAMPLE TAP CONDITIONS:

The interior sample tap appears to be in working condition.

INTERIOR DRY LADDER CONDITIONS:

The interior dry ladder is in good condition. There are many breaks in the coating with a small amount of corrosion beginning to form. The safety climbing pipe appears to be in good condition as well.

CONDENSATE PLATFORM CONDITIONS:

The condensate platform is in good condition. There is a significant amount of corroding and spent abrasive resting on the platform.

RISER CONDITIONS:

The coating on the riser was not a part of the 2021 rehab project, but is in fair condition.

TOP PLATFORM CONDITIONS:

The top platform is in good condition. There is also a moderate amount of spent abrasive corroding on the platform causing discoloration.

TRANSITION CONE CONDITIONS:

The transition cone is in good condition. Some minor pinholes exist in the coating. There is also some minor mildew beginning to grow in the upper part of the transition cone. The wet access hatch also has some minor amount of corrosion forming on the nuts and bolts.

MUD VALVE CONSITIONS:

The mud valve is in good condition.

ACCESS TUBE CONDITIONS:

The access tube is in good condition.

INTERIOR WET LADDER CONDITIONS:

The interior wet ladder is in good condition with no noticeable staining.

INTERIOR WET ROOF CONDITIONS:

The interior wet roof is in good condition.

INTERIOR WET OVERFLOW PIPE CONDITIONS:

The interior wet overflow pipe is in good condition. It has a weir box located approximately 2-4' from the roof of the tank.

INTEROIR WET ACCESS TUBE CONDITIONS:

The interior wet access tube is in good condition. Minor sediment is accumulating on all horizontal surfaces protruding from the column.

INTERIOR WET SIDEWALL CONDITIONS:

The interior wet sidewalls are in good condition. Minor sediment accumulation is happening in the lower part of the tank.

CATHODIC PROTECTION CONDITIONS:

The cathodic protection poles, wires, and brackets appear to be in good condition.

INTERIOR WET ACCESS HATCH CONDITIONS:

The interior wet access hatch is in good condition with minimal sediment buildup.

INTERIOR WET FILL/DRAW PIPE CONDITIONS:

The interior wet fill/draw pipe is in good condition.

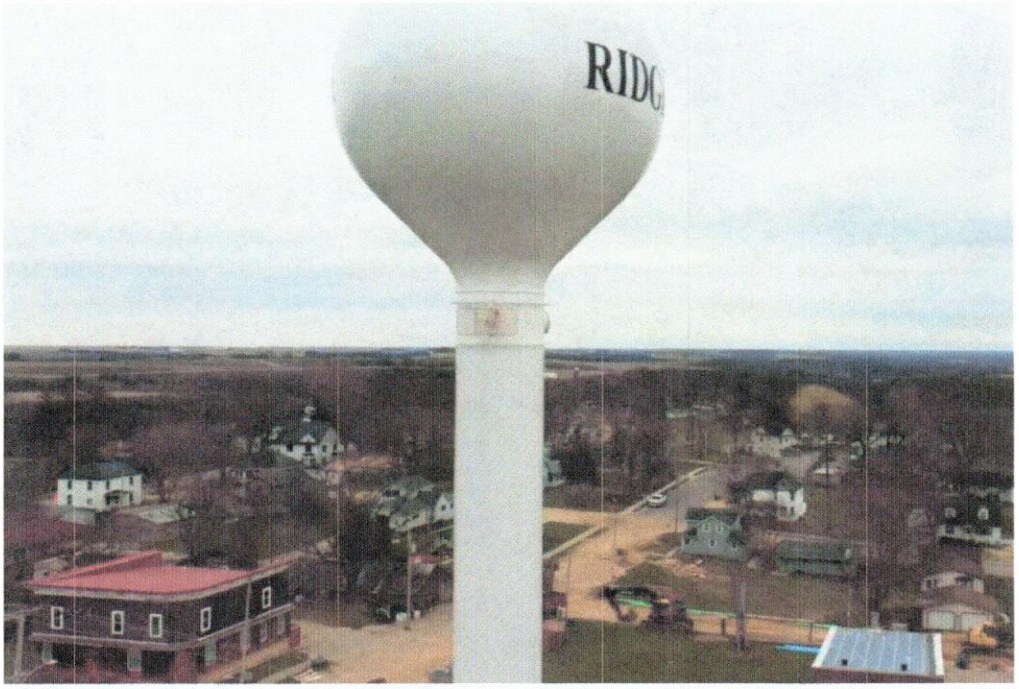
INTERIOR WET SEDIMENT CONDITIONS:

There is minimal interior sediment present at this time.

CONCLUSIONS AND RECOMENDATIONS:

Overall, the tank is in good condition. Minor issues such as replacing the overflow pipe screen and removing all miscellaneous items from the base bell of the tank should be completed when possible. Removal of the spent abrasive from the platforms should be completed soon, as the abrasive is corroding and will likely lead to the platform corroding prematurely in the future. The minor pinhole corrosion in the transition cone should be monitored and may need to be dealt with when the riser is coated in the future.

It is recommended to begin budgeting for recoating the riser and replacing the foam insulation in 5-10 years. Most of the coating is in moderate to good condition, but the coating on the weld seams is light in many spots. This could be handled by preparation, spot priming and finish coating the riser pipe.

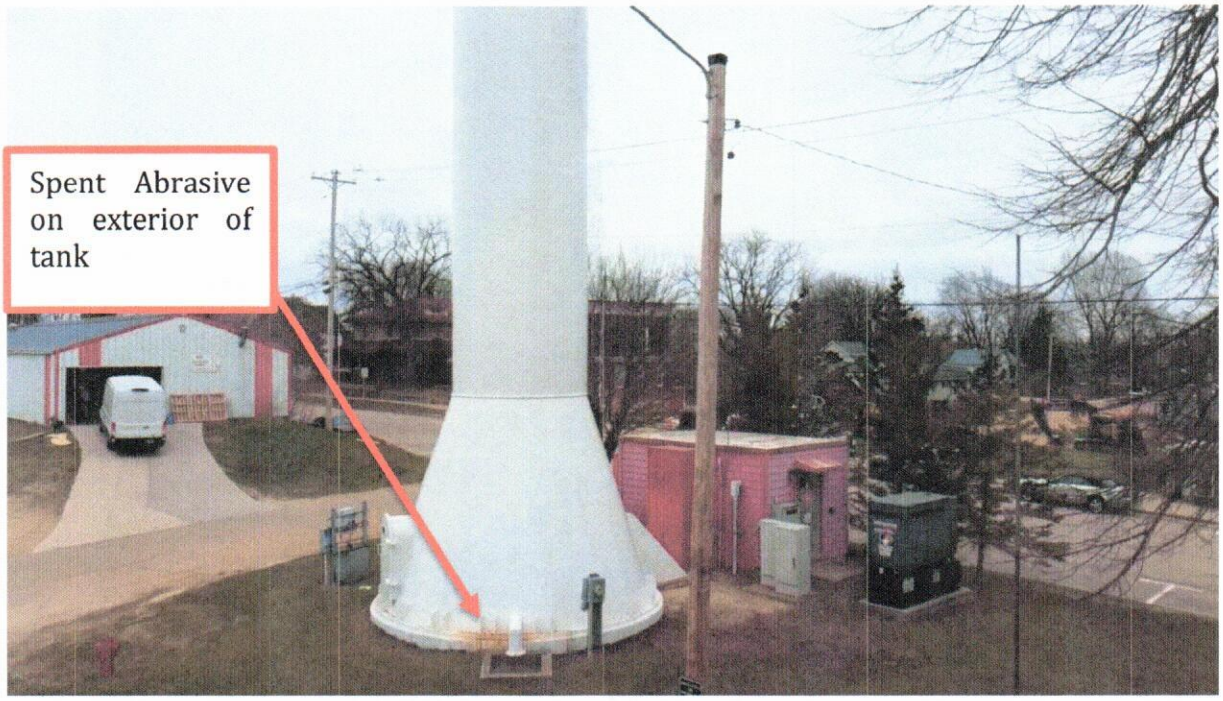


Ridgeway Sphere

150,000 Gallon Spheroid Tank

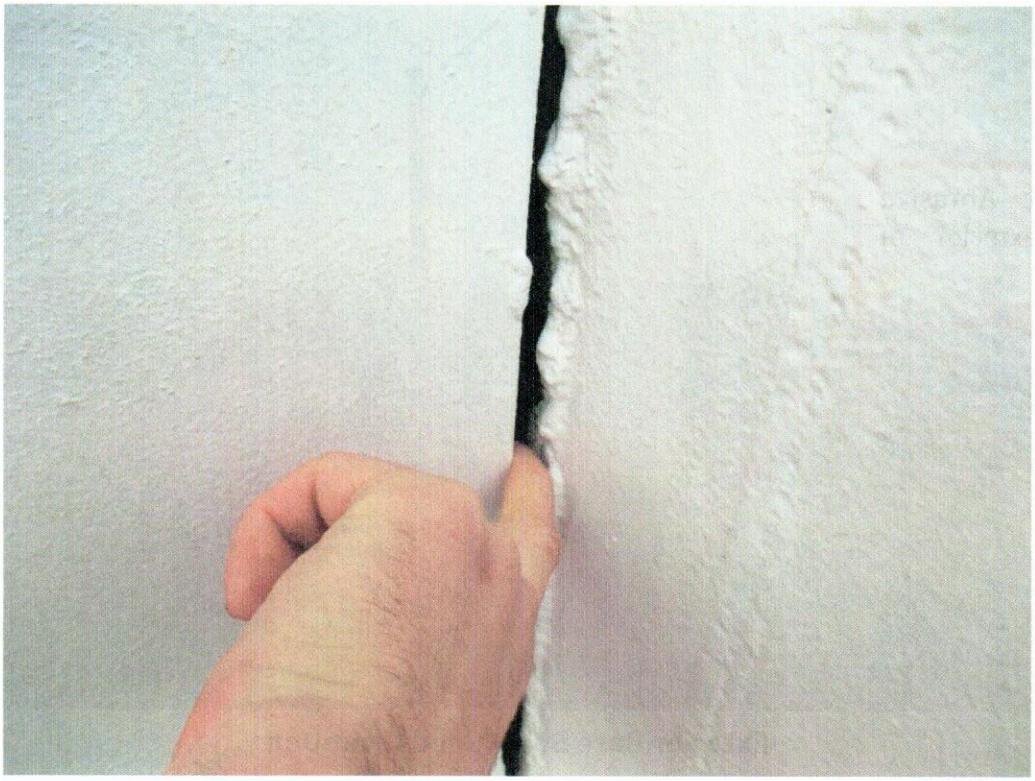
Site Parking Lot – Residual Spent Abrasive

Exterior Foundation – Good Condition

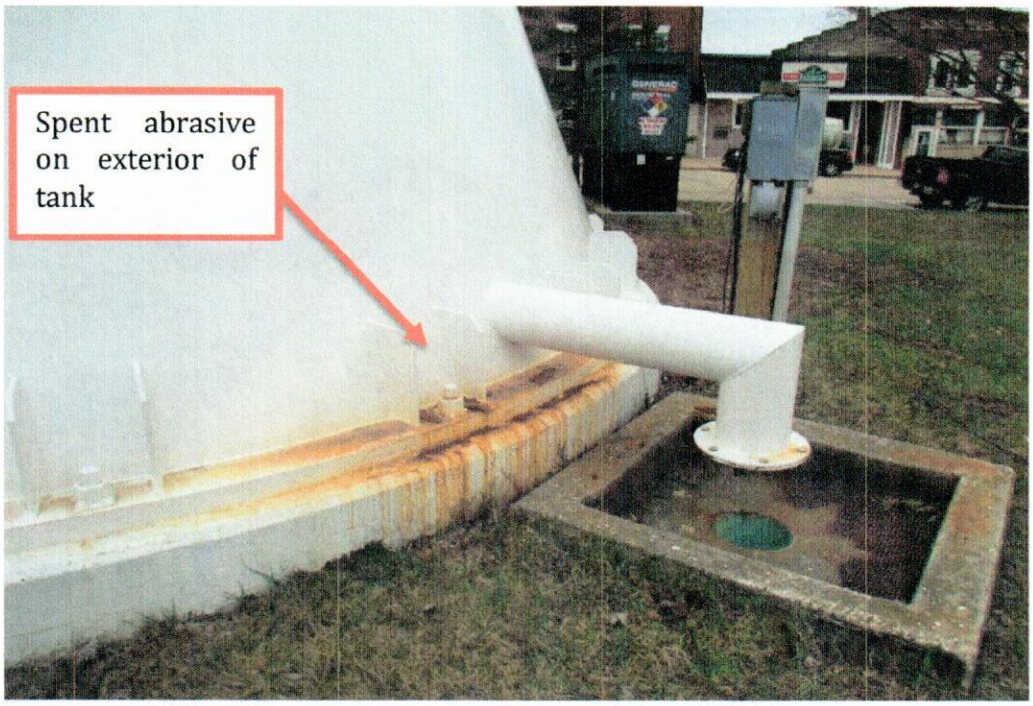


Exterior Base Bell – Good Condition

Exterior Base Bell – Gap in Telecom Structure



Exterior Base Bell – Gap in Telecom Structure

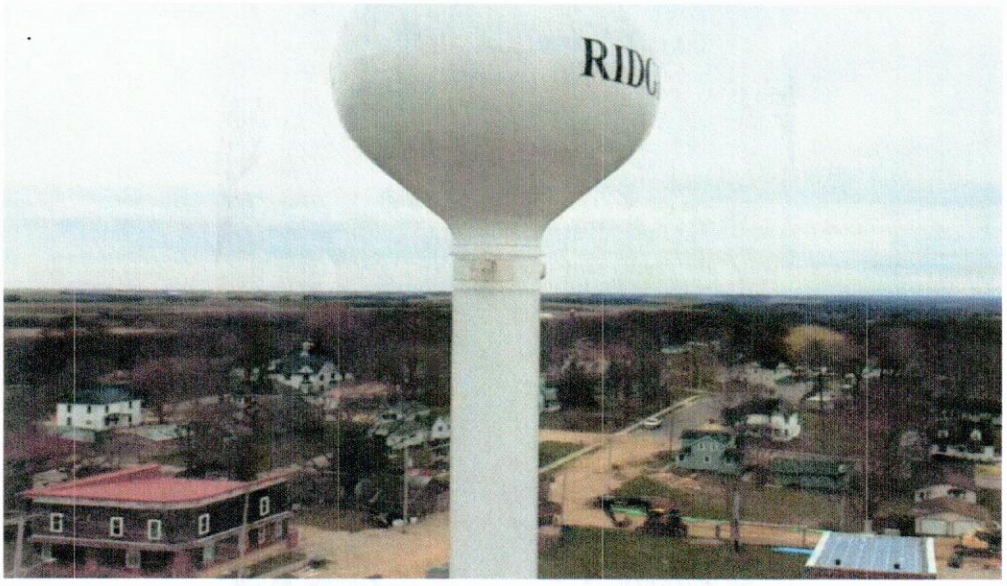


Exterior Overflow – Good Condition

Exterior Overflow – Poor Condition – Broken Mesh

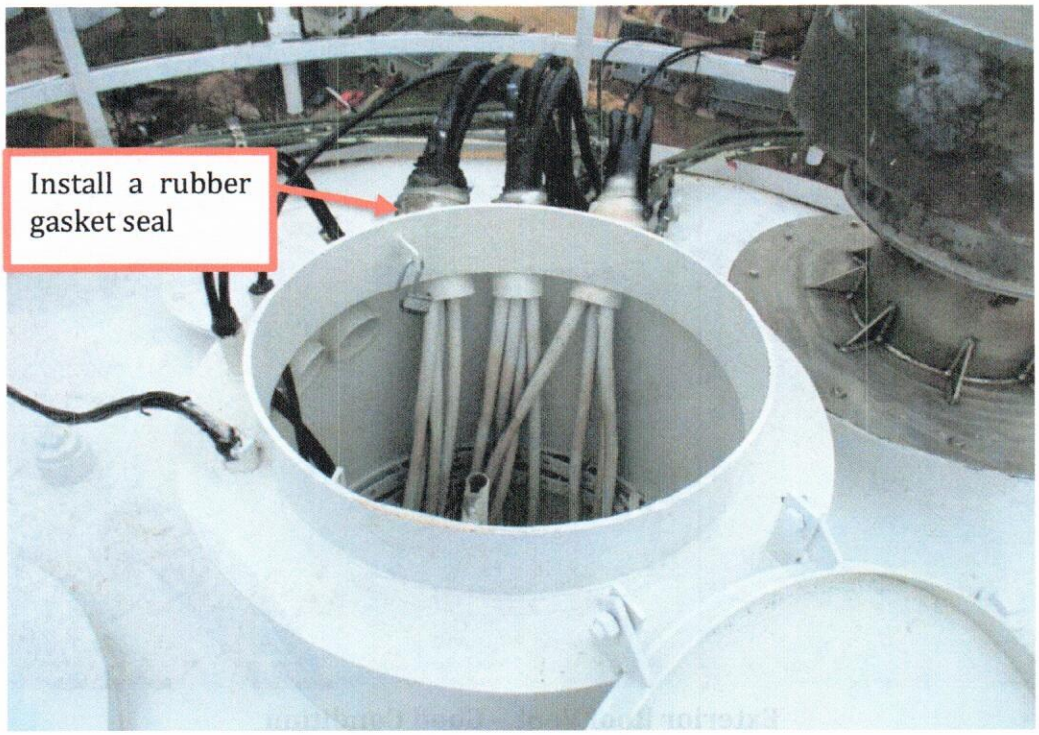
Exterior Door – Good Condition

Exterior Riser – Good Condition



Exterior Bowl – Good Condition

Exterior Roof and Handrail – Good Condition

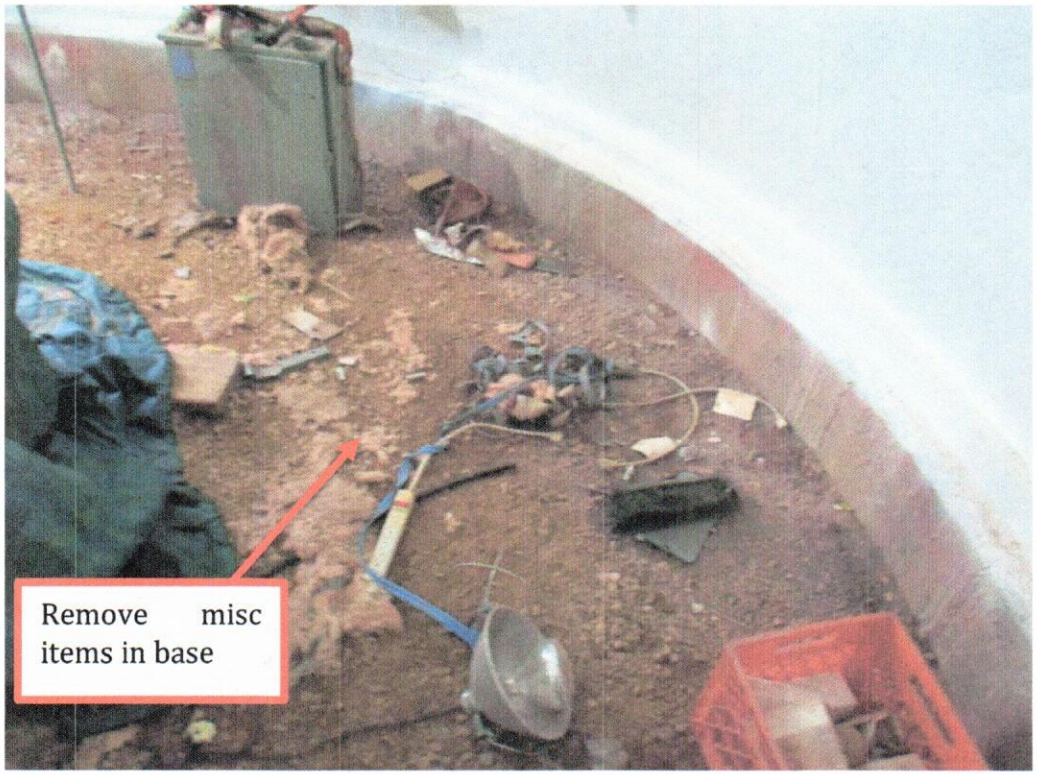


Exterior Dry Hatch – Good Condition – No Gasket

Exterior Wet Hatch – Good Condition

Exterior Roof Vent – Good Condition

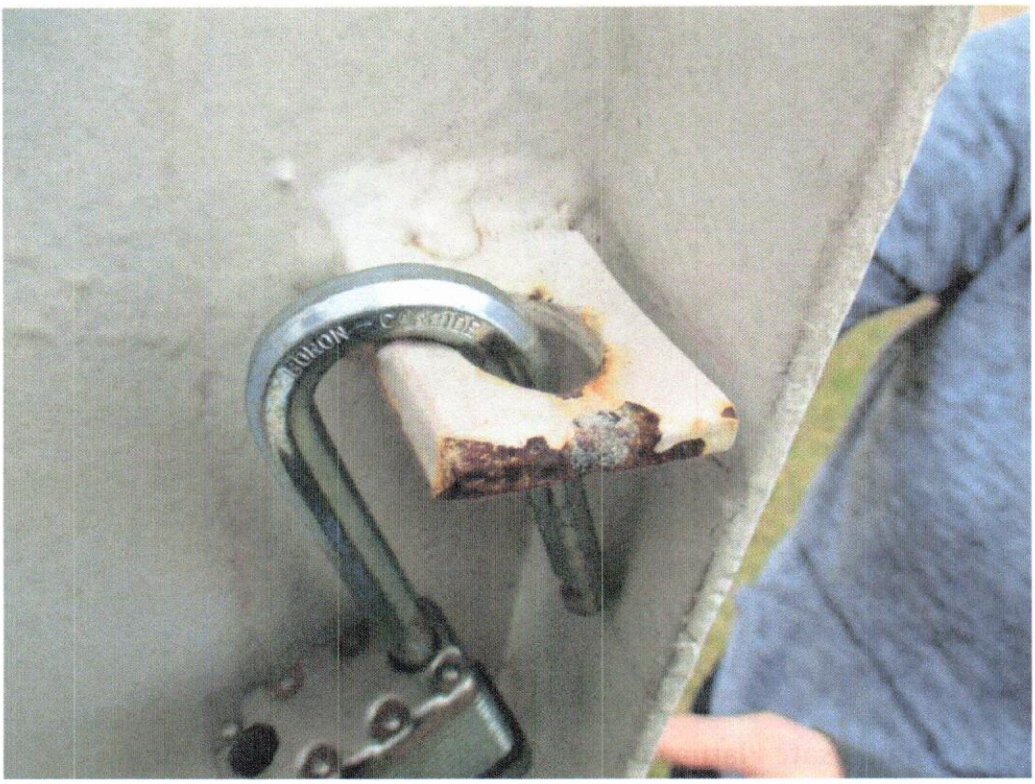
Interior Dry Base Bell – Good Condition



Interior Dry Base Bell – Miscellaneous Cables and Debris Left in Tank

Interior Dry Base Bell – Good Condition

Interior Dry Base Bell – Good Condition – Washer Stain



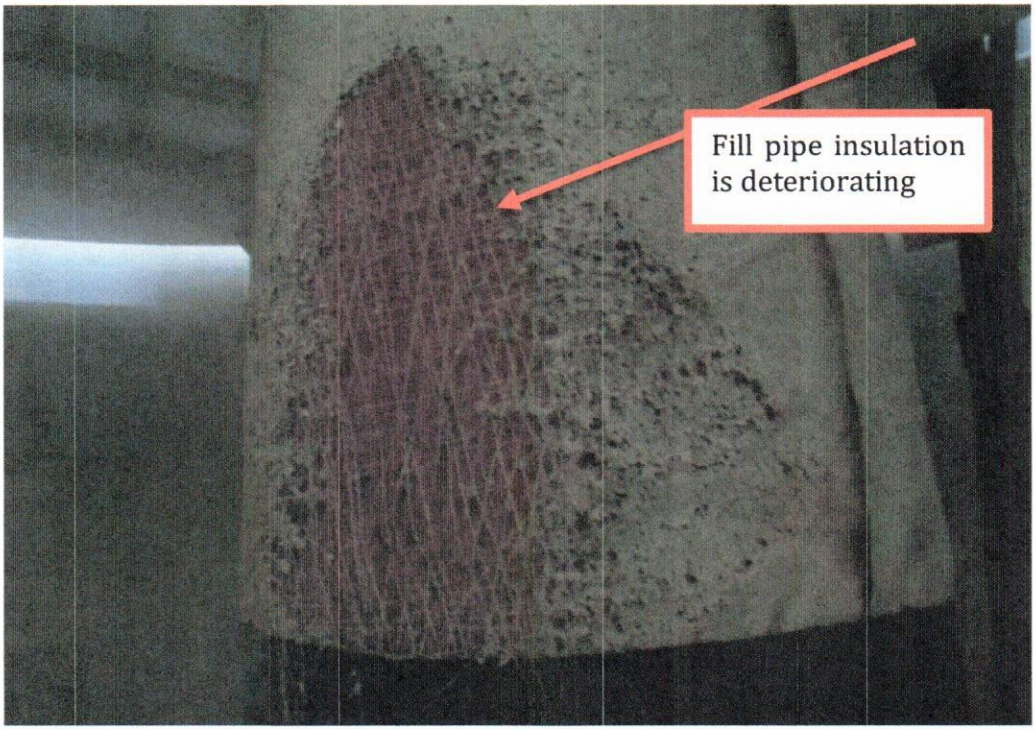
Tank Lock – Good Condition

Scada Fill Panel – Good Condition

Condensate Platform – Fair Condition – Debris & Staining

Riser Staining

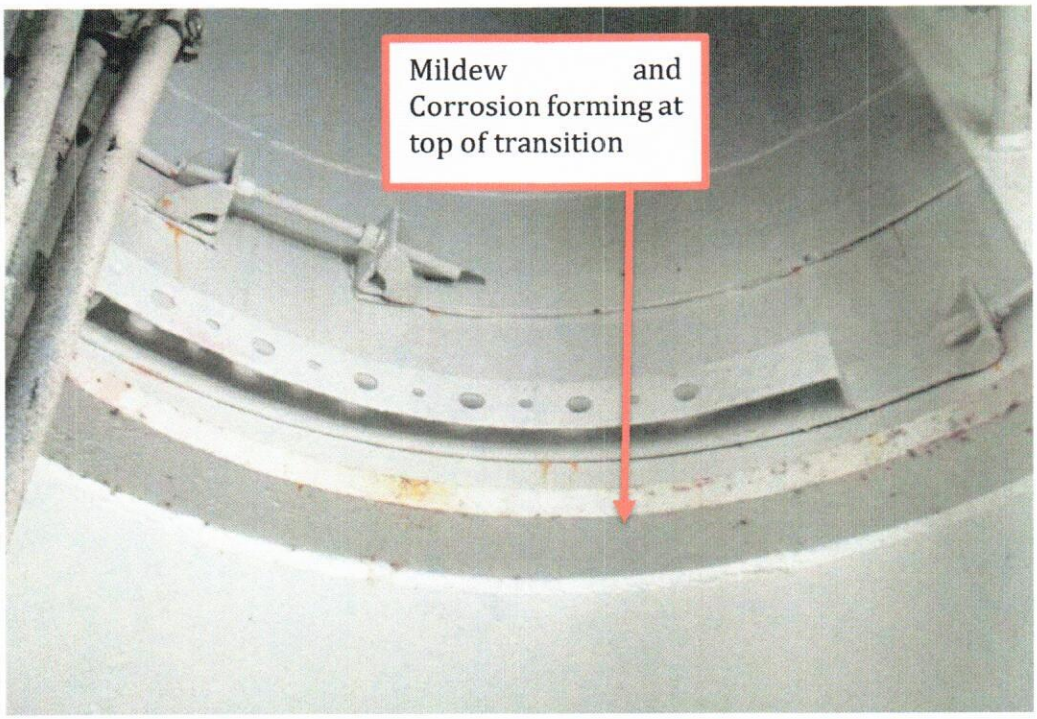
Riser – Coating Crack



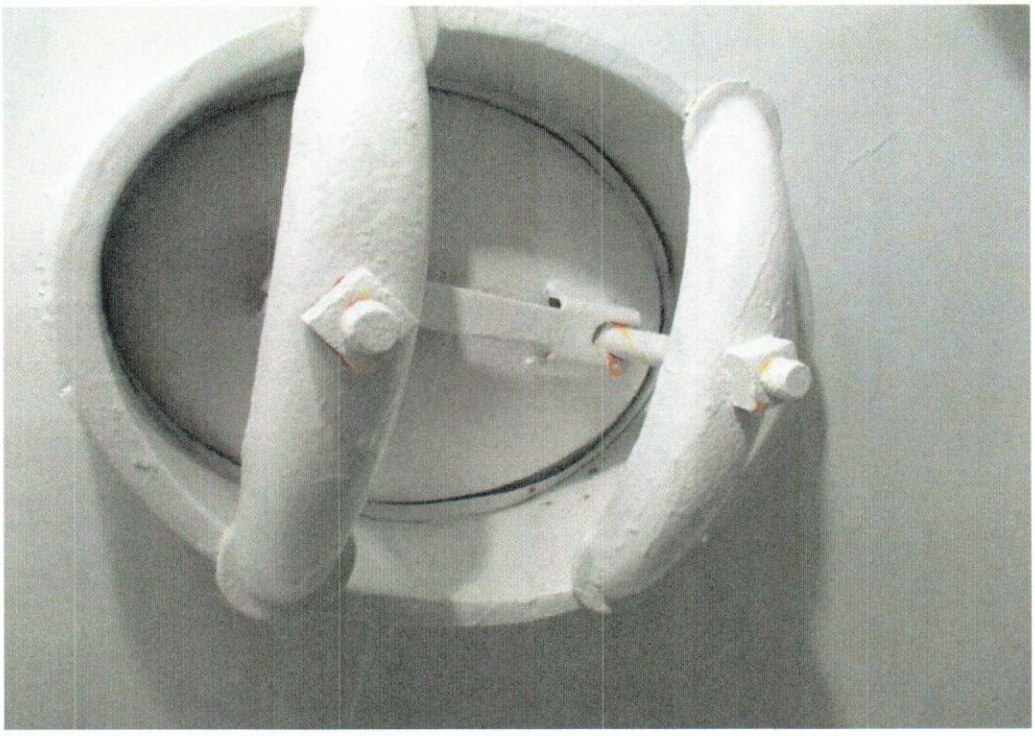
Fill Pipe Insulation – Roughed Up

Top Platform – Good Condition – Minor Debris and Staining

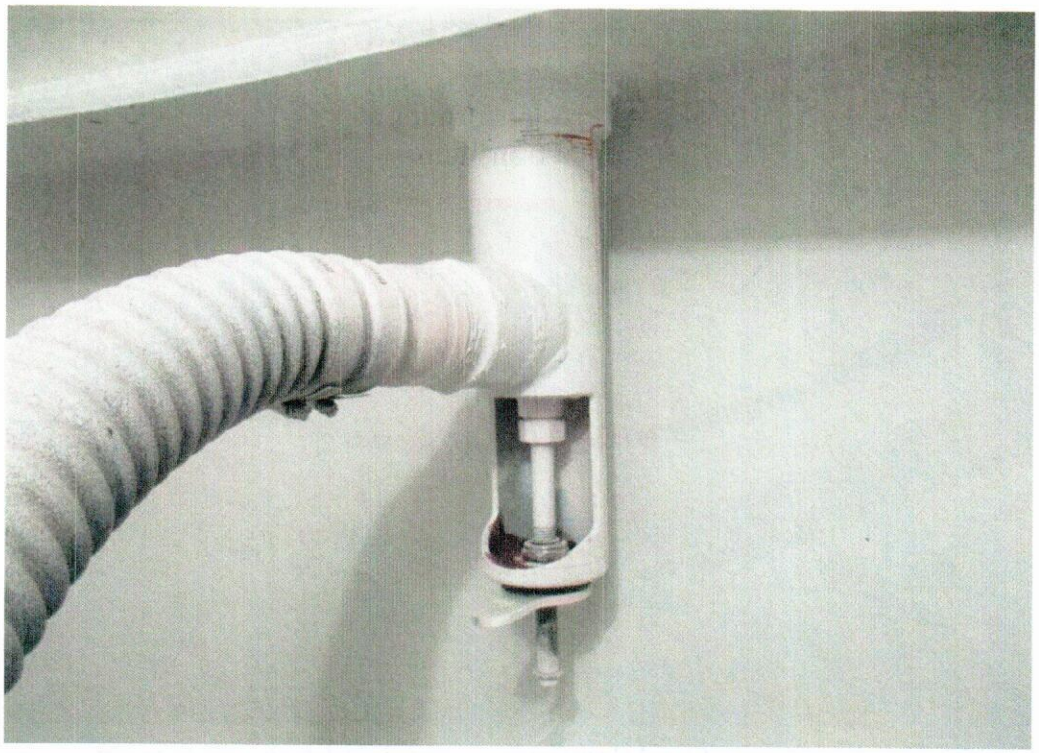
Top Platform – Good Condition – Minor Staining



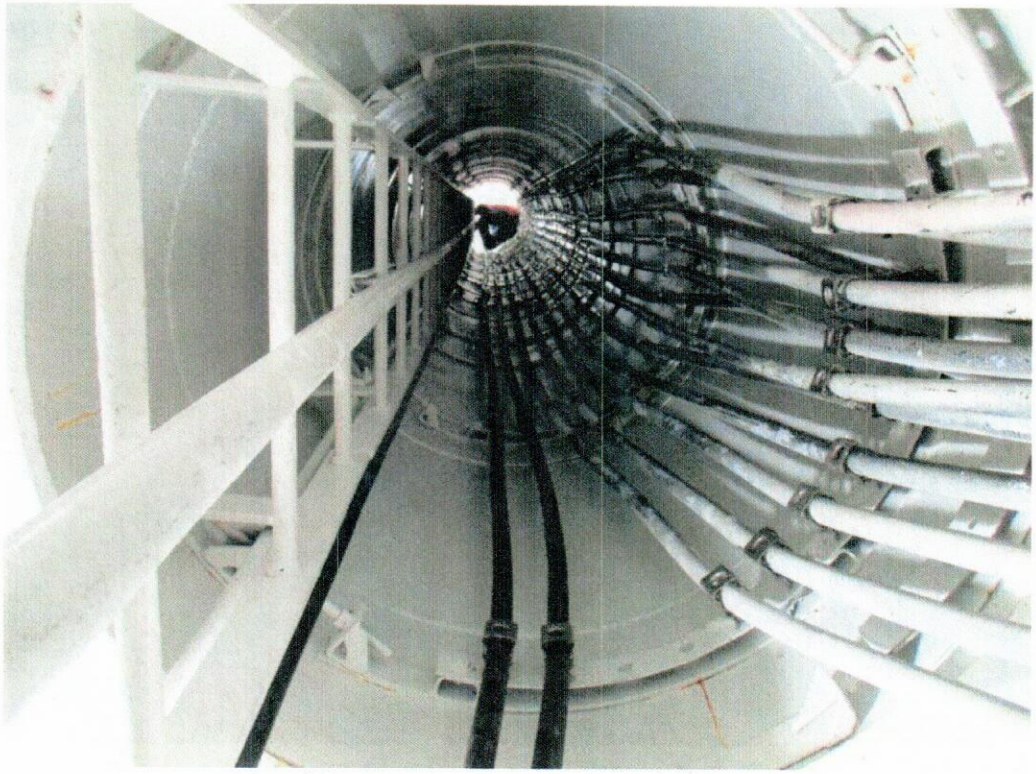
Transition Cone – Good Condition – Minor Mildew and Staining



Access Tube – Wet Hatch – Good Condition

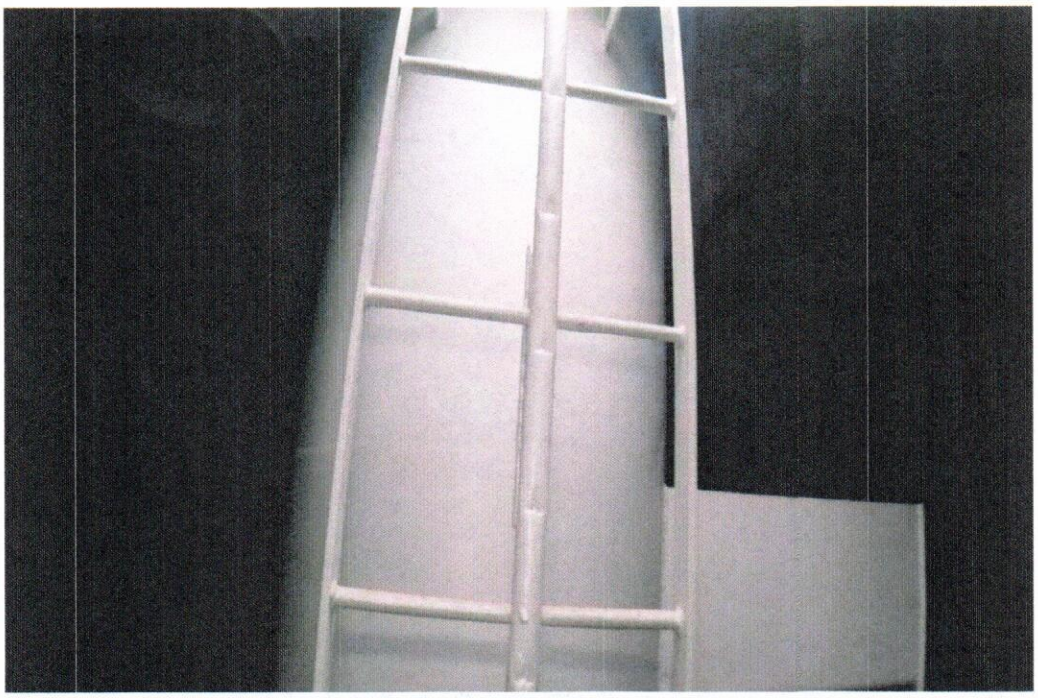


Mud Valve – Good Condition

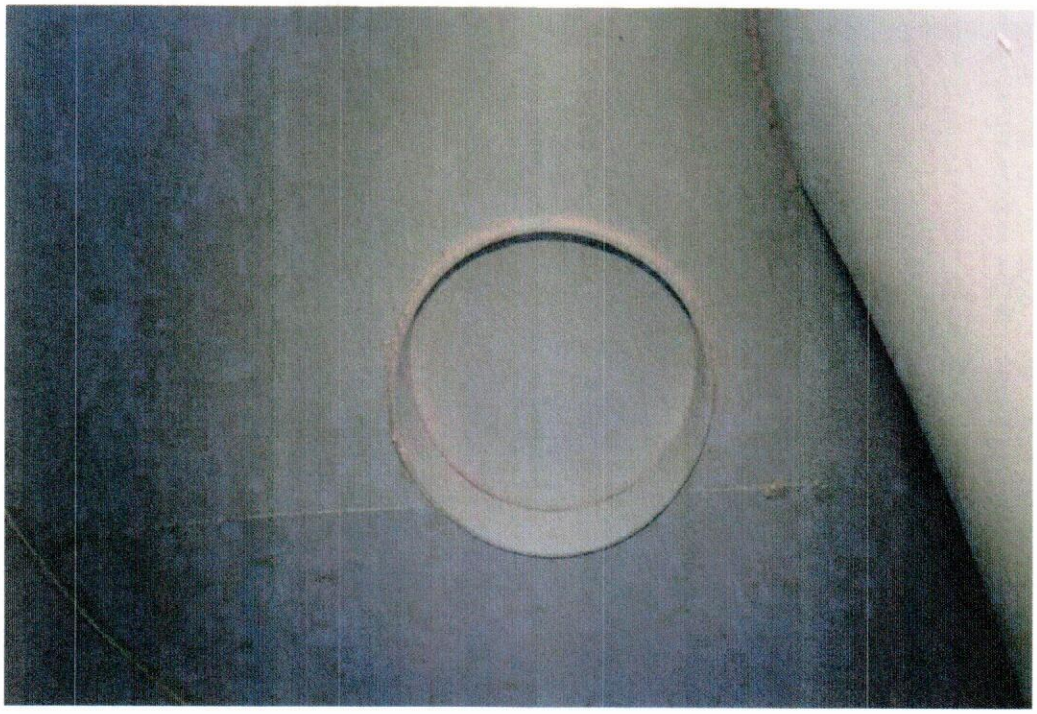


Access Tube – Good Condition – Very Busy

Access Tube – Good Condition



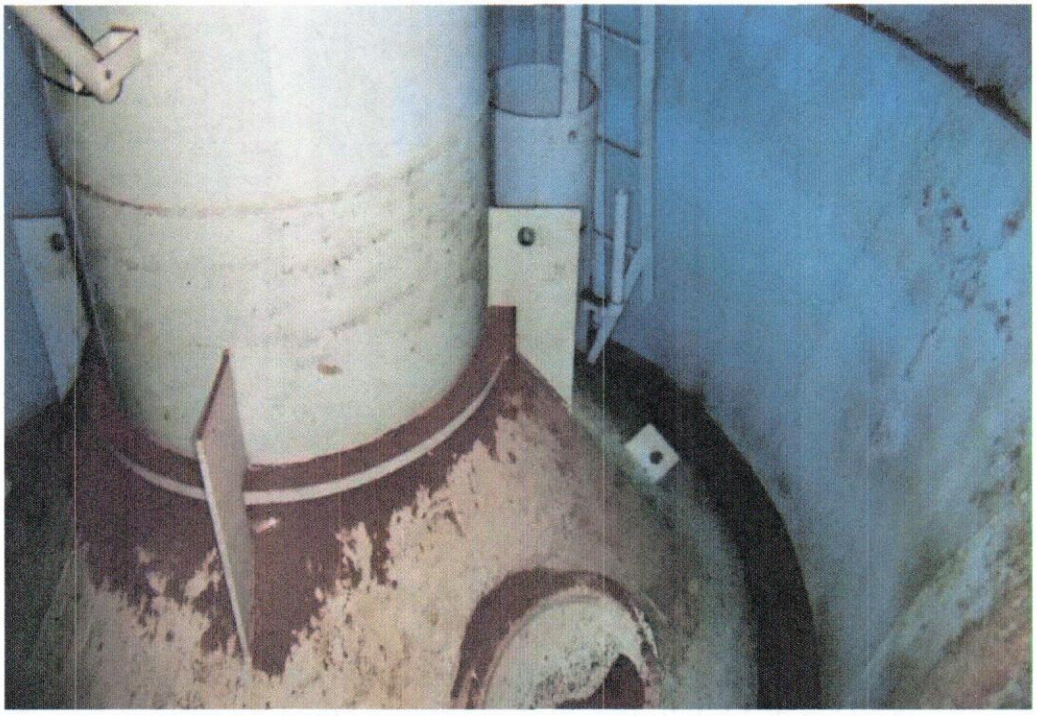
Interior Wet Ladder – Good Condition



Interior Wet Roof – Good Condition

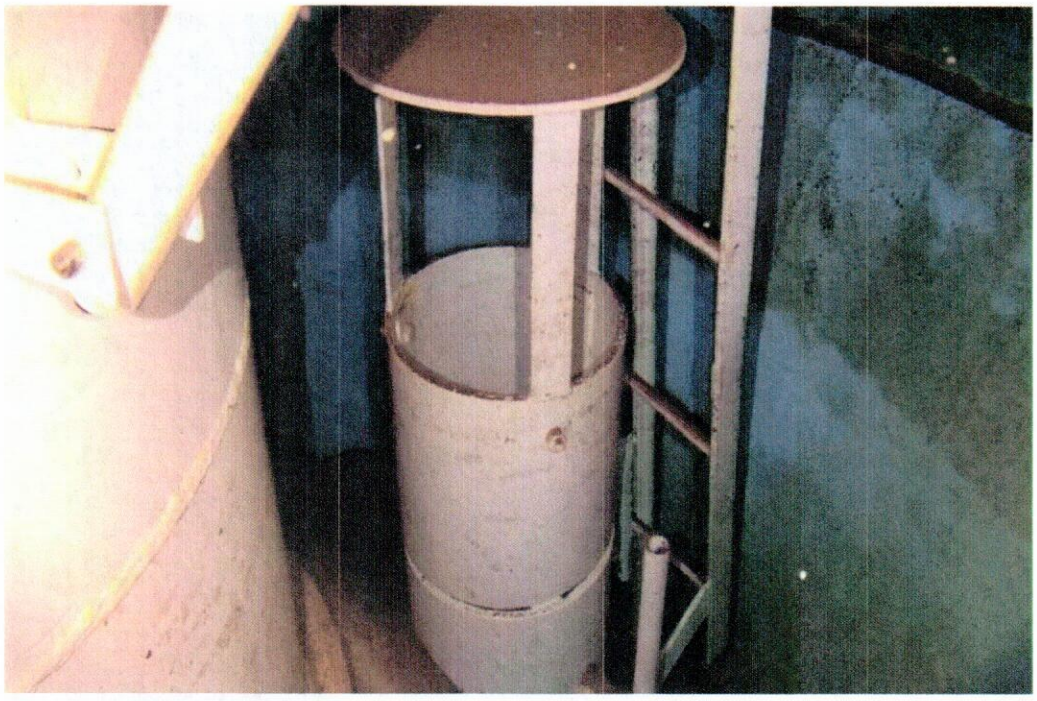
Interior Wet – Good Condition – Minor Sediment

Interior Wet Sidewalls – Good Condition – Minor Staining



Interior Wet Tank Bottom – Good Condition – Minor Sediment

Interior Wet Access Hatch – Good Condition – Minor Sediment



Interior Wet Fill Pipe & Deflector Plate– Good Condition