Blue Locker
Commercial Diving Services LLC

Sky Ranch Estates - Owners Association

Sky Ranch Estate Reservoir

09/03/2019

ATTN: Kevin McMahan
Client: Sky Ranch Estates Owners Association
ADDRESS: 838 Saratoga Ave. Box 455, Sandy Valley, NV 89019
Phone: (775) 782-9989

Tank: Above grade, bolted steel
Height: 16'
Water Appearance - Good
Discharge Location - Thru Fence.
Coating Type - Epoxy

Approximate Measurement for all Penetrations:

- Center Roof Vent – 18" Diameter
- Access Hatch - 30" x 30"
- Inlet - 6" Diameter
- Outlet - 6" Diameter
- Drain - 6" Diameter
- Overflow – 6" diameter
- Manways – 2 @ 30" diameter

Date: 09/03/2019

Sky Ranch Estates - Reservoir

On September 3rd, 2019 Blue Locker Commercial Diving Services, L.L.C. performed a cleaning and inspection of the Sky Ranch Estates Reservoir for the Sky Ranch Owners Association. This report, along with the provided video, documents the findings of the inspection.

The tank is inspected and mapped using clock coordinates with the access hatch at 12:00. Appurtenance locations are described using their location on the clock. General areas of the tank are divided into quadrants starting with Quadrant A covering 12:00 to 3:00.

Section 1: Shell

- **Interior coating – good condition.**
- No cracking, peeling or blisters observed.
- Rust observed in crevice where shell meets ceiling.
- Rust seeping out from under plastic on bolts at seams.
- Surface of coating is chalky.
- Recommendations:
    - Coating is chalky which indicates the coating is beginning to reveal its age.
    - Inspect again within 3 years to check for how much oxidization has occurred.

Section 2: Floor

- **Floor coating – good condition.**
- No cracking, peeling or blisters observed.
- Rust on nuts and bolts at seams thru-out tank.
- Rusty debris from inlet stuck to floor under inlet.
- Surface of coating is chalky.
- 1/8’ - ¼” of sediment and debris was removed by divers prior to inspection.
- Recommendations:
    - See shell.

Section 3: Ceiling

- **Ceiling coating - good condition.**
- No blisters observed.
- Coating on beams at top-hat is peeling exposing rusted steel.
- No other flaws observed.
- Recommendations:
    - See shell.

Section 4: Columns/Support Poles:

- **1 Center support pole - good condition.**
- No flaws observed in coating other then peeling on the beams above top-hat.
- Recommendations:
    - NA.

Section 5: Water Level Indicators

- **Mechanical Water Level Indicator (W.L.I.) is in good condition and appears functional with the float at surface and guide wires intact.**
- **Hi-Water float is in good condition and functional.**
- **W.L.I. Transducer is in good condition and functional, hangs approximately 4' off the floor.**
- Recommendations:
    - It appears all requirements per NAC 445A.6708.7 have been met.

Section 6: Roof Vent

- **18" Diameter center roof vent - good condition.**
- Screen is intact
- Recommendations:
    - Ensure screen mesh is 22-24 mesh per NAC 445A.6708.5

Section 7: Exterior Ladder

- **Exterior ladder - good condition.**
- Ladder is galvanized and secure to shell.
- No flaws observed on rungs, runners or cage.
- Safety climbing device (cage) – good condition.
- Recommendations:
    - None

Section 8: Interior Ladder

- **Interior ladder - good condition.**
- Structurally sound and secure to shell.
- No flaws observed on rungs or runners.
- Recommendations:
    - NA.

Section 9: Outlet

- **6” Diameter outlet - good condition.**
- Pipe is unobstructed, secure to shell and in good condition.
- Rust observed around penetration opening edge and on baffle.
- No other flaws observed.
- Recommendations:
    - Have divers touch up rust with an NSF approved epoxy at next inspection.

Section 10: Overflow

- **6” Diameter exterior & Interior overflow pipe - good condition.**
- Overflow pipe is unobstructed with no flaws observed on interior or exterior.
- Recommendations:
    - **NA.**

Section 11: Drain

- **6” Diameter drain (no mudguard) - good condition.**
- Structurally sound and unobstructed.
- Nuts and bolts around opening are covered with rust.
- No other flaws observed.
- Recommendations:
    - NA.

Section 12:Access Hatch

- **30” x 30” Access hatch – good condition**
- No cracking, peeling, or blisters observed.
- No flaws observed around opening or on hatch cover.
- Recommendations:
    - Replace/repair gasket to remain in compliance with NAC445A.6708

Section 13: Inlet

- **6” Diameter inlet - good condition.**
- Pipe has a 90-degree upturn near bottom and another 90-degree upturn at top.
- Pipe is structurally sound and secure to shell. (Unobstructed).
- No flaws observed.
- Recommendations:
    - NA.

Section 14: Manways

- **2 @ 30” diameter manways – good condition.**
- Seals are intact.
- No flaws observed around edges or on either manway face.
- Coating is similar to surrounding shell on both manways. (Chalky).
- Recommendations:
    - NA.

Section 14: Cathodic Protection

- **None**
- Recommendations:
    - Consider installing a passive cathotic protection system if recoat is performed.
    - Or avoid it altogether and install a liner.

Section 15: Miscellaneous Penetrations

- **Sample tap - good condition with rust forming around opening.**

General Notes:

- **Follow AWWA recommendations for continued tank inspections and cleaning.**
- **Coating is oxidizing and exposing the primer underneath. Blast and recoat may be needed within next 3-5 years.**
- **See recommendations at bottom of each section.**
- **Keep an eye on structure for leaks as the seasons change and the tank flexes due to climate.**
- **Heavy rust was observed under the bolt caps at seams.**
- **If the funds are available it may be a good idea to install a liner in this reservoir to prevent the tank from leaking in the future.**

Sincerely,
Kelan Gondrezick
Blue Locker Commercial Diving Services, L.L.C.

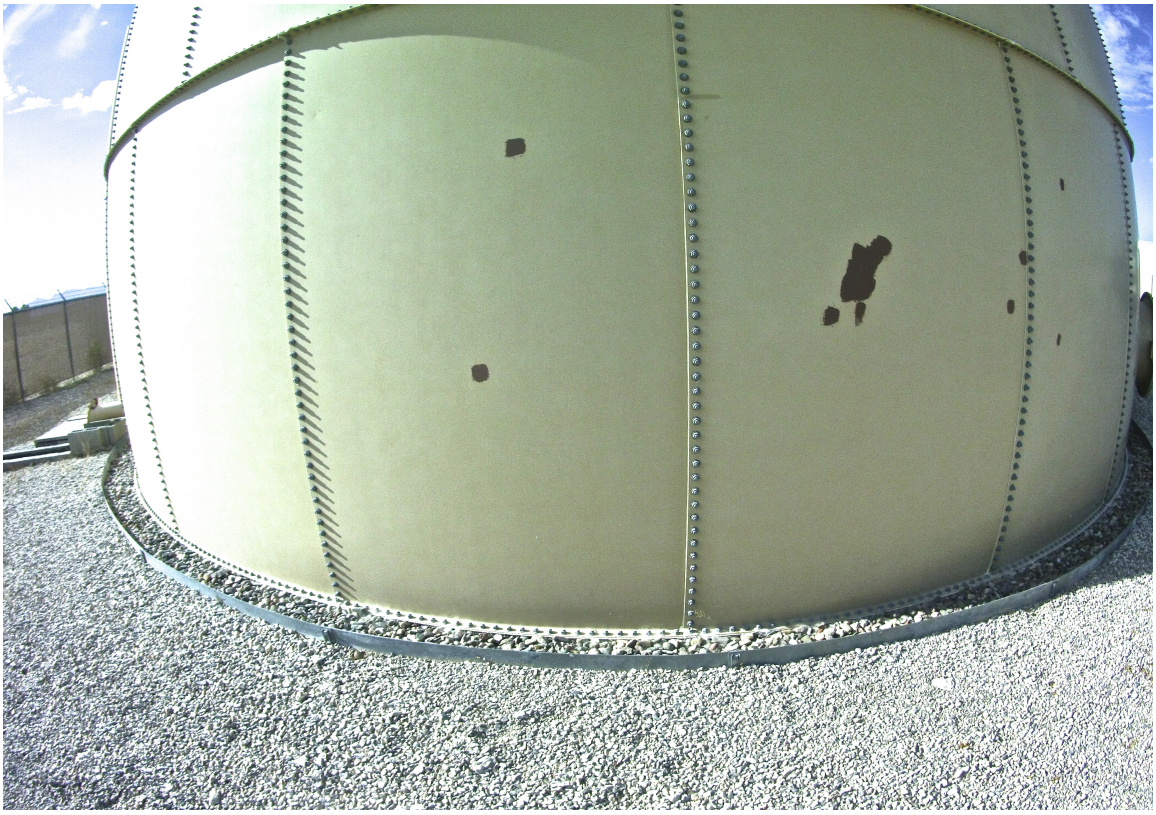
Blue Locker Diving - Photo Documentation

Members - AWWA & NvRWA

Sky Ranch Estates - Owners Association
Sky Ranch Reservoir
09/03/2019

1. Sky Ranch Reservoir

2. Exterior Shell

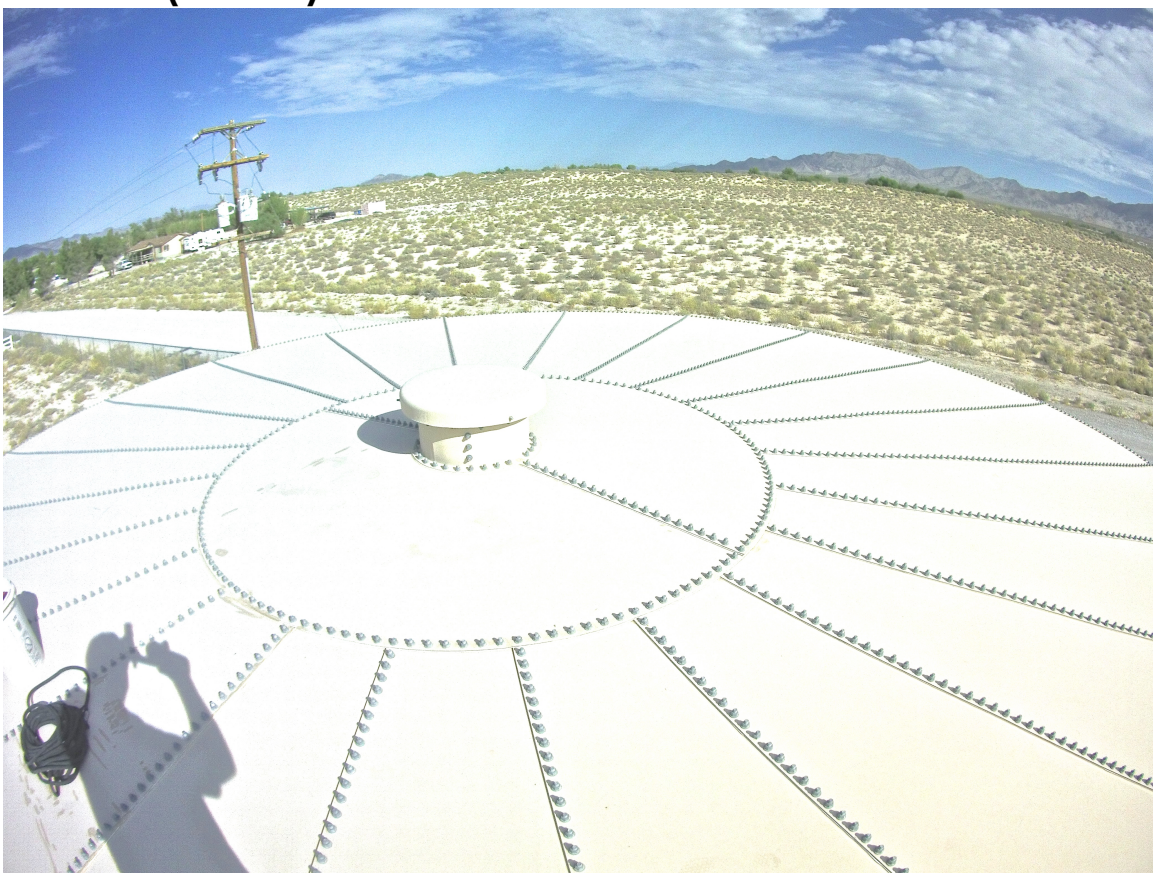


3. Exterior Shell at Chine - (Seismic)

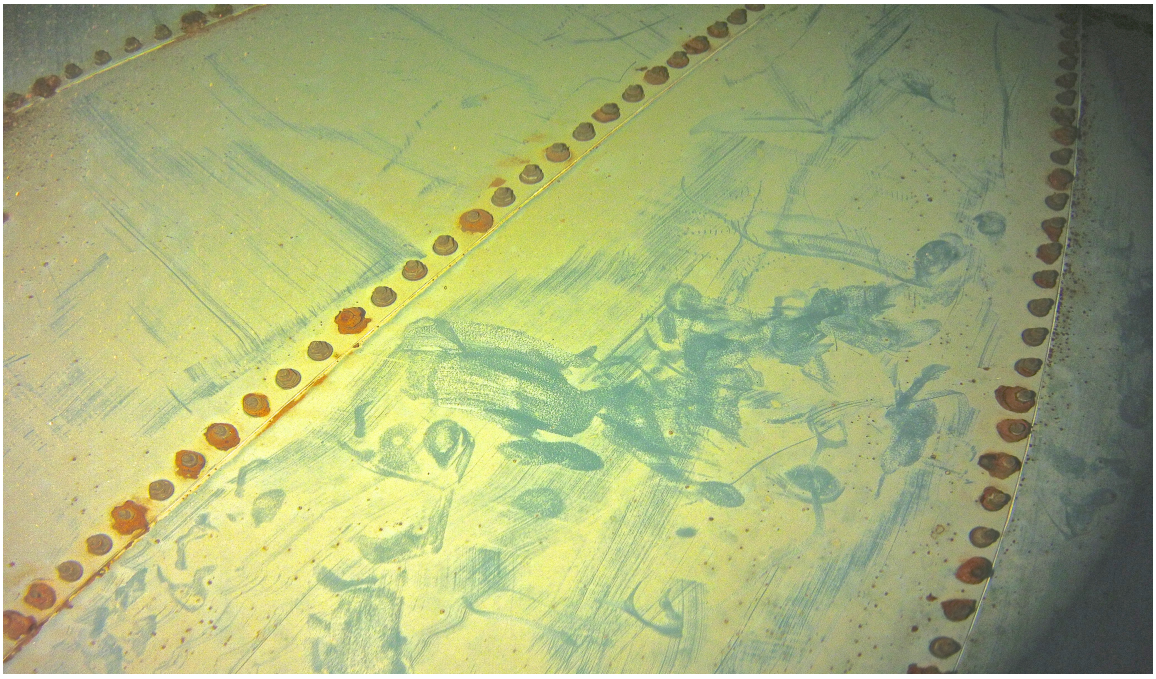
4. Exterior Shell

5. Roof Edge - (Seismic)

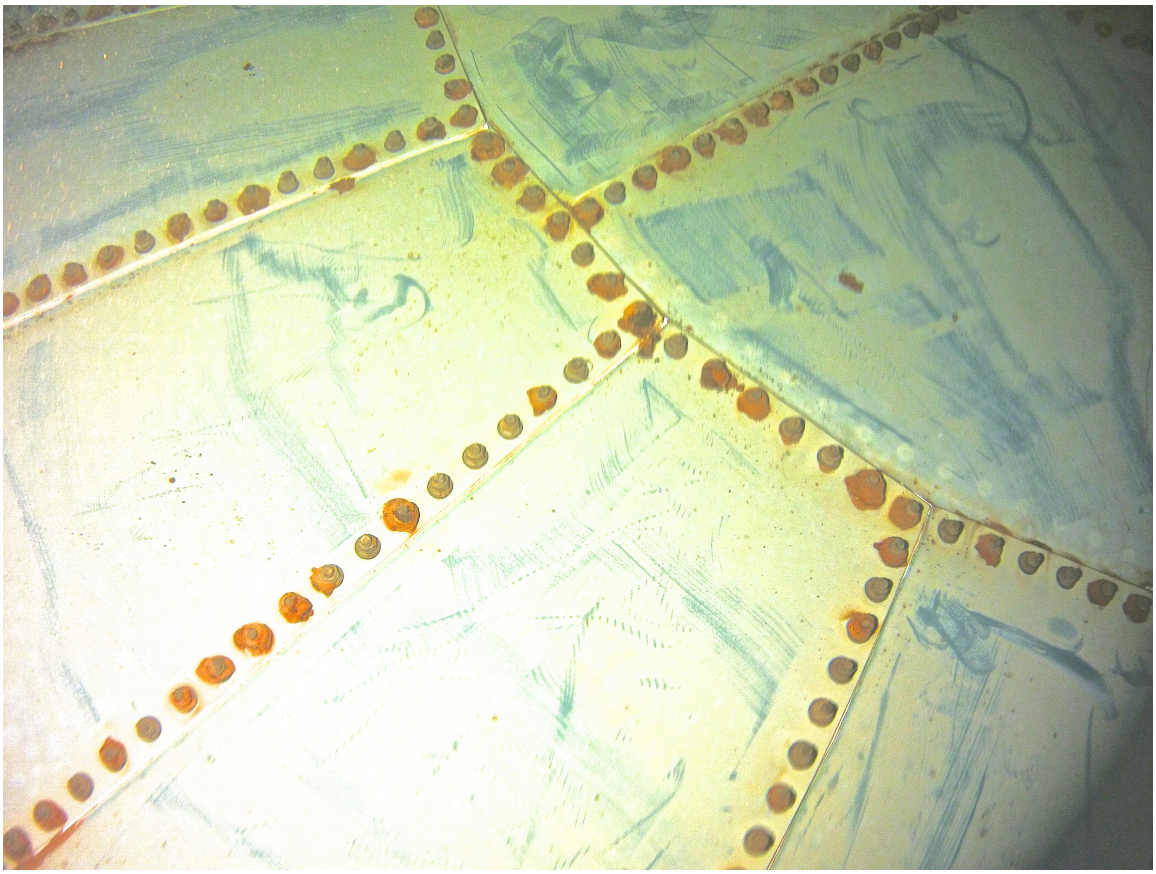
6. Roof - (Seismic)



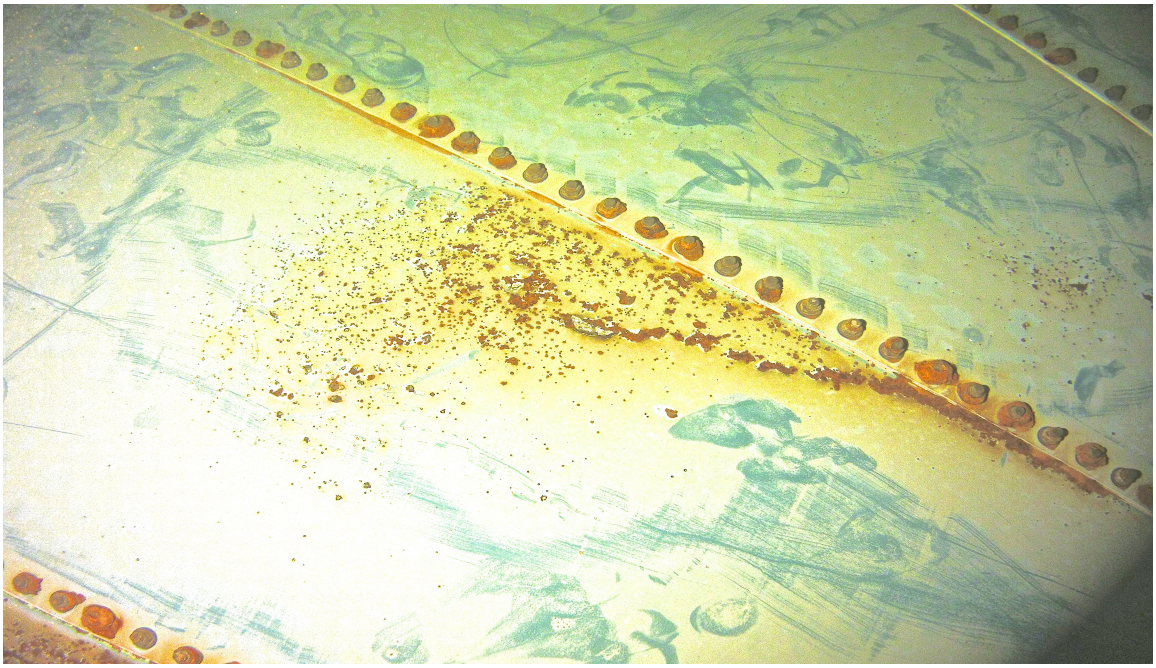
7. Floor



8. Floor



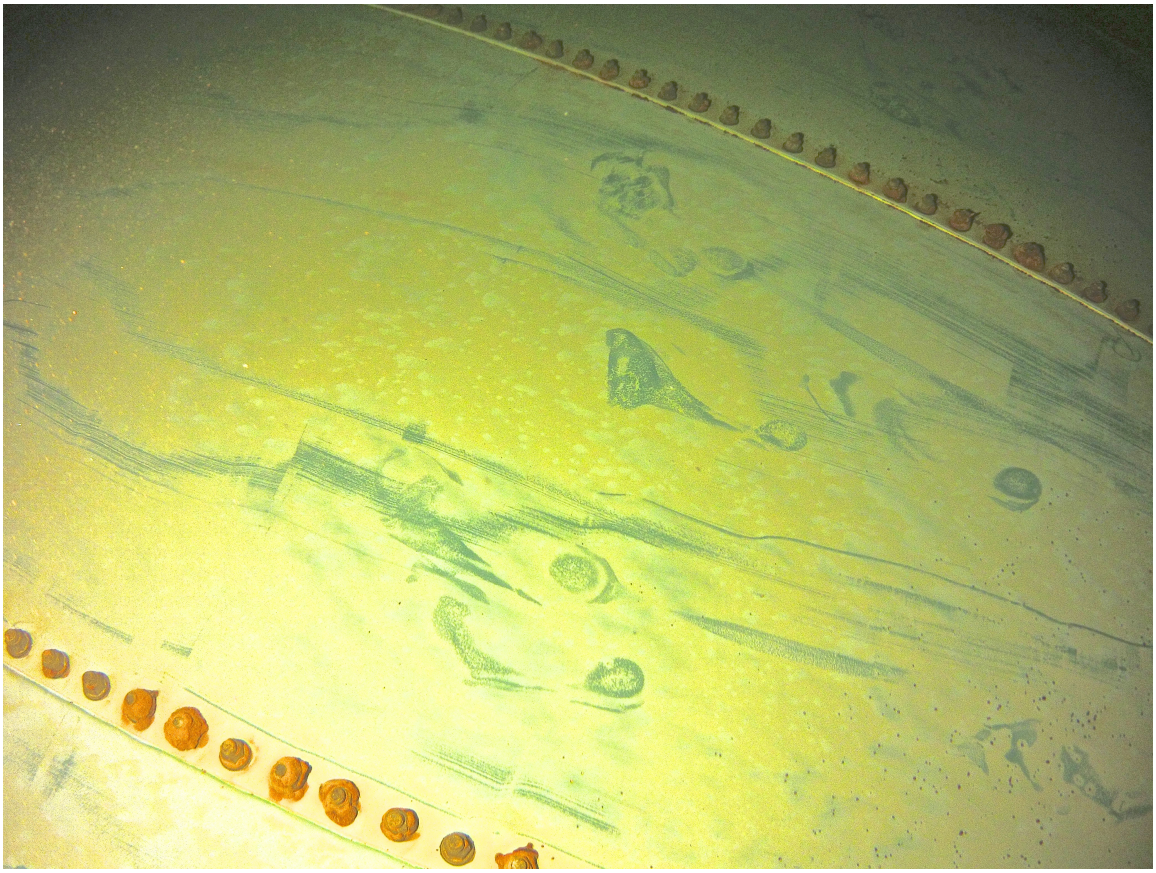
9. Floor



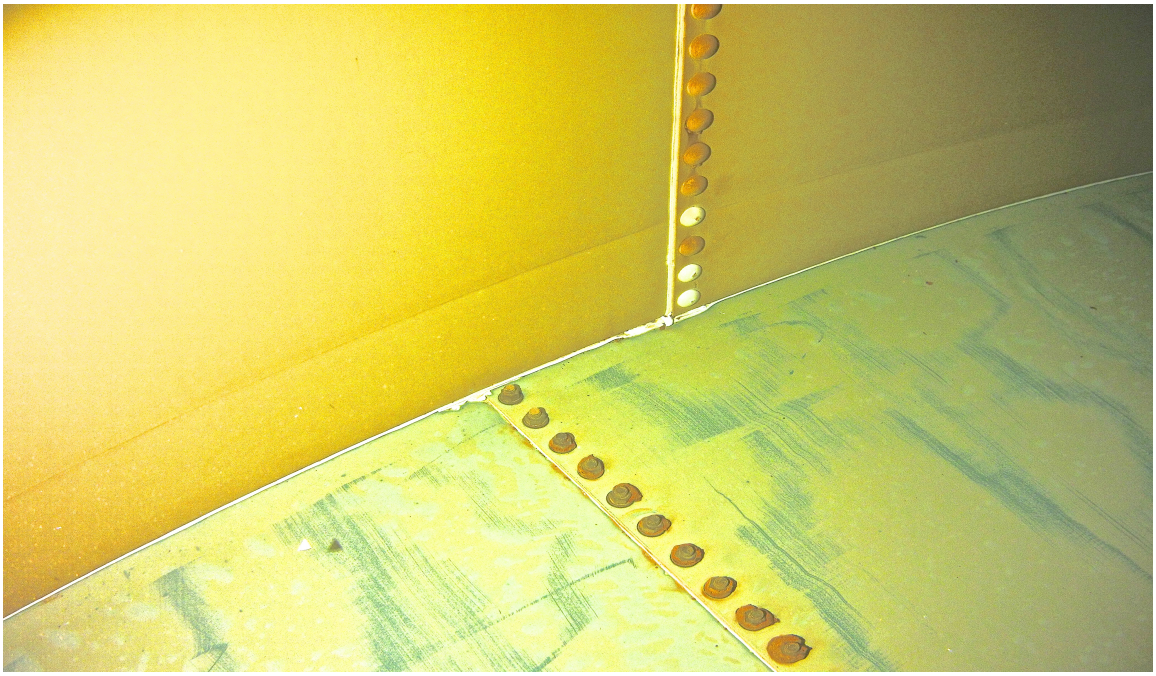
10. Floor

11. Floor

12. Floor

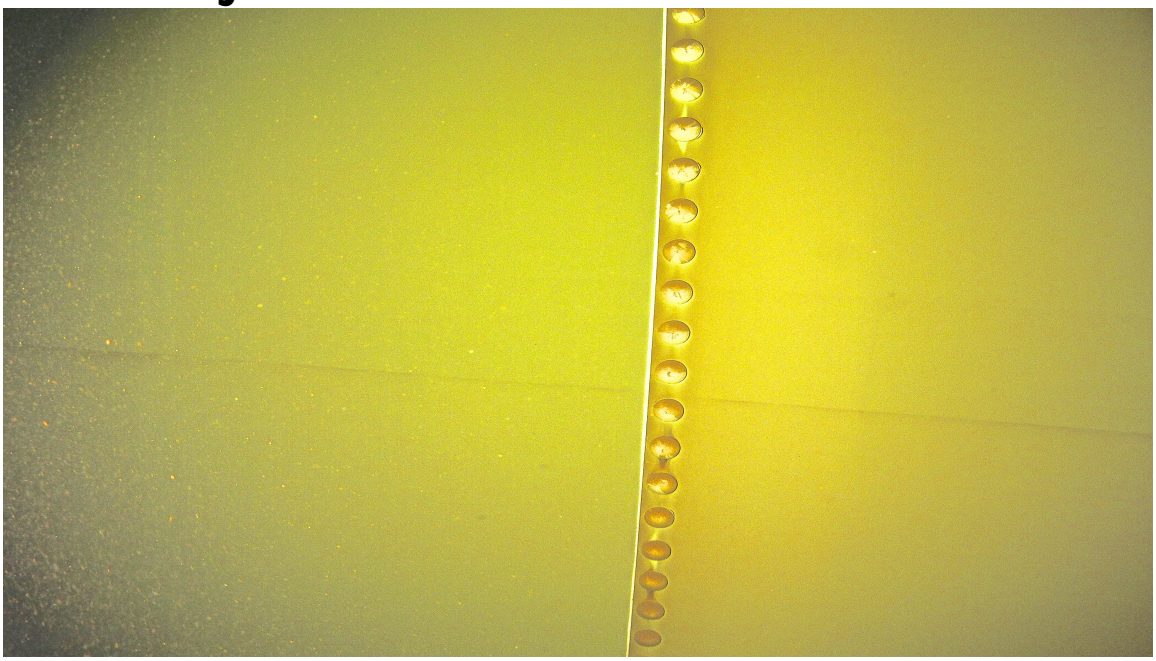


13. Shell at Floor

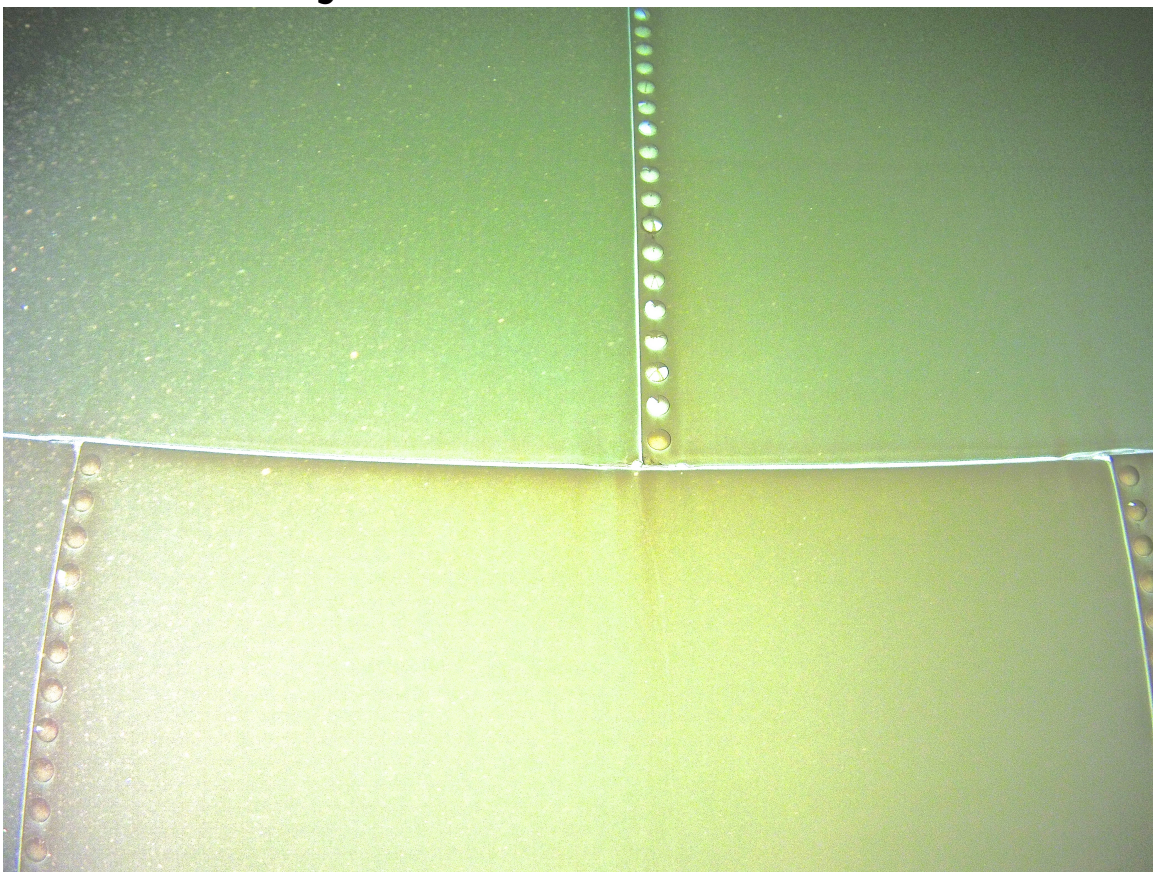


14. Shell at Floor

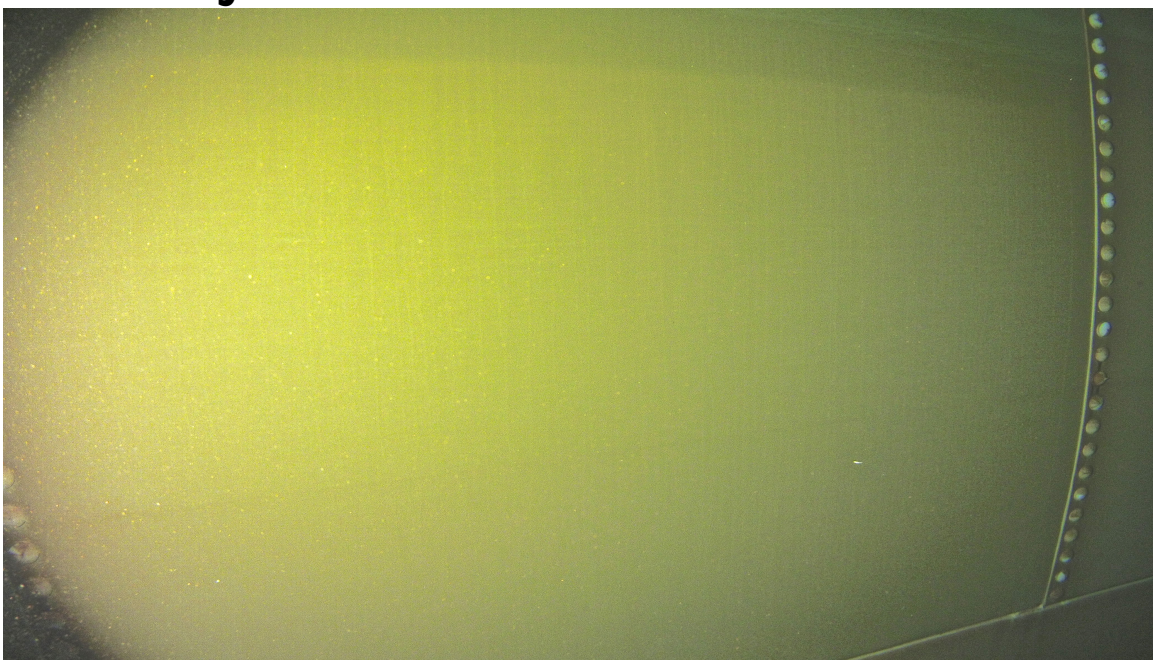
15. Shell Ring #1



16. Shell Seam Rings #1-#2

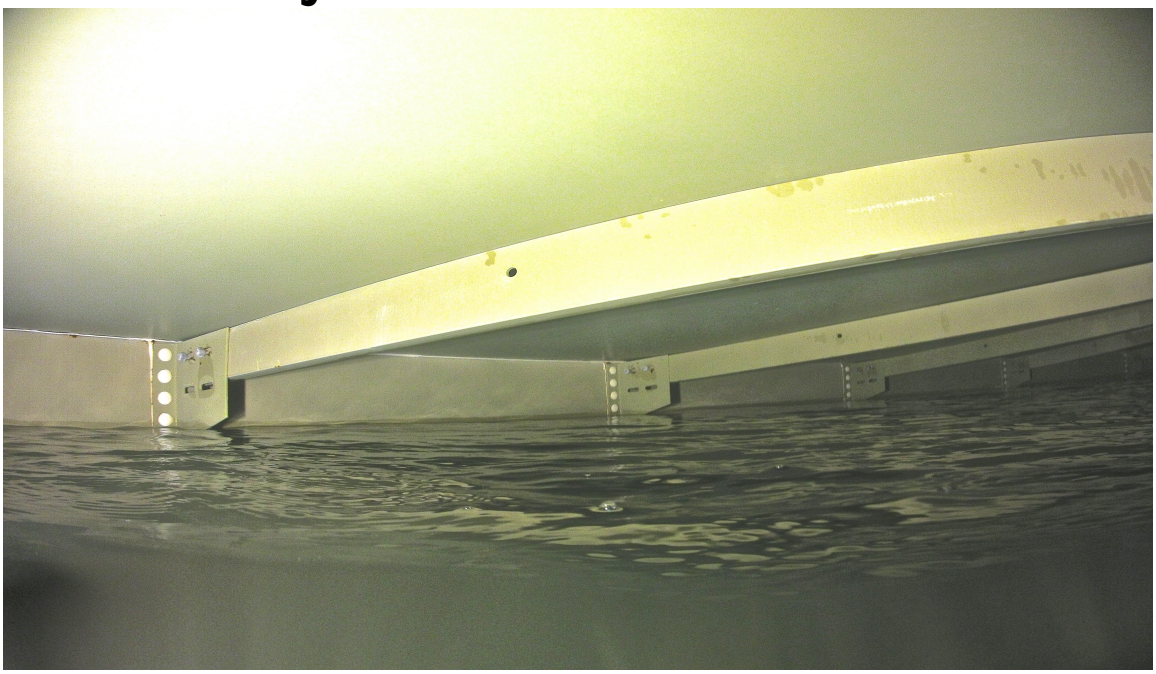


17. Shell Ring #2

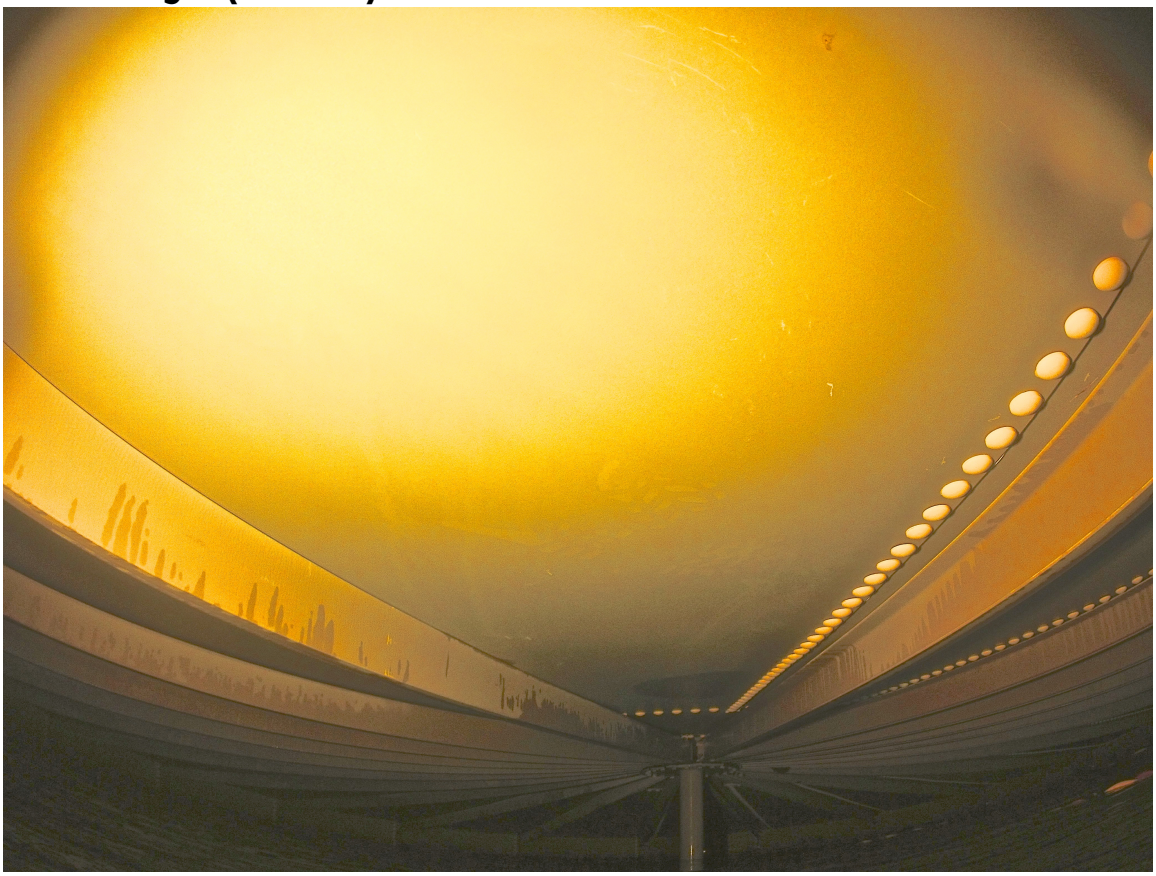


18. Shell at Ceiling

19. Shell at Ceiling

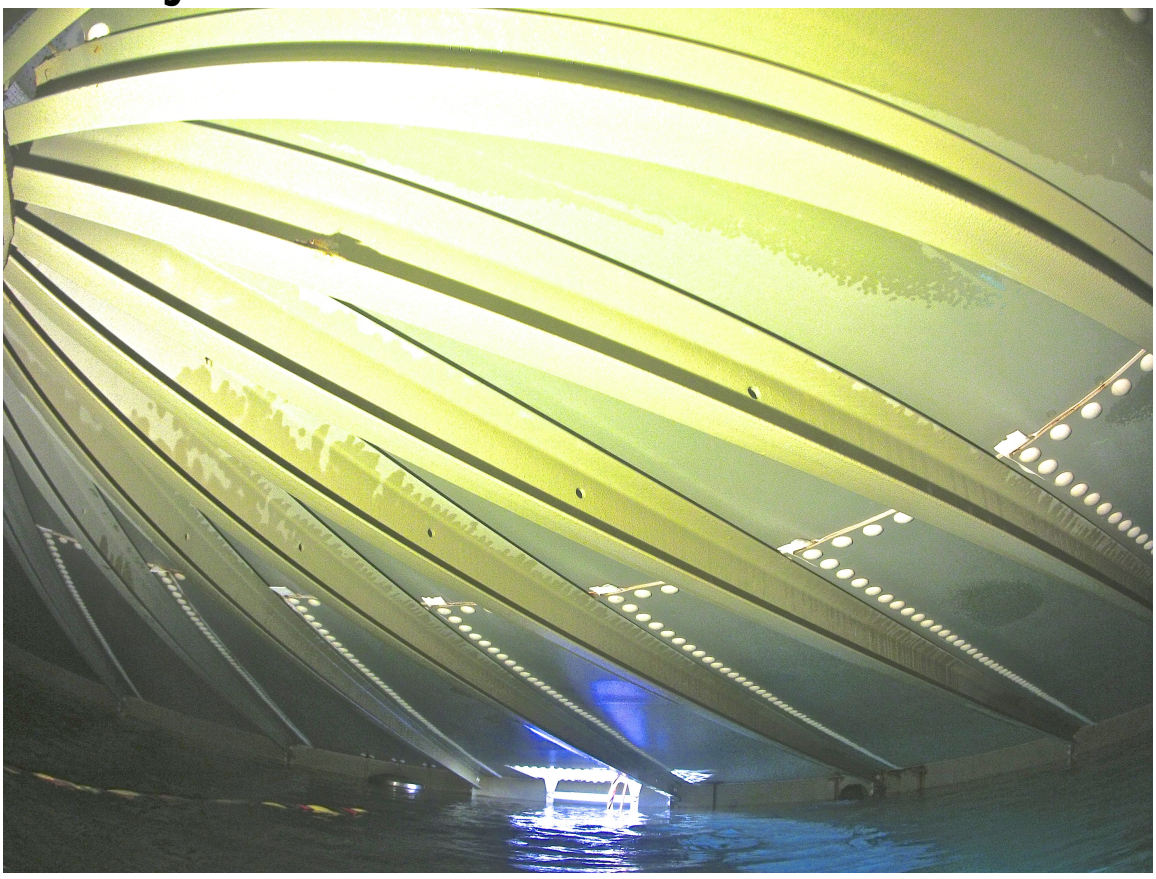


20. Ceiling - (Seismic)

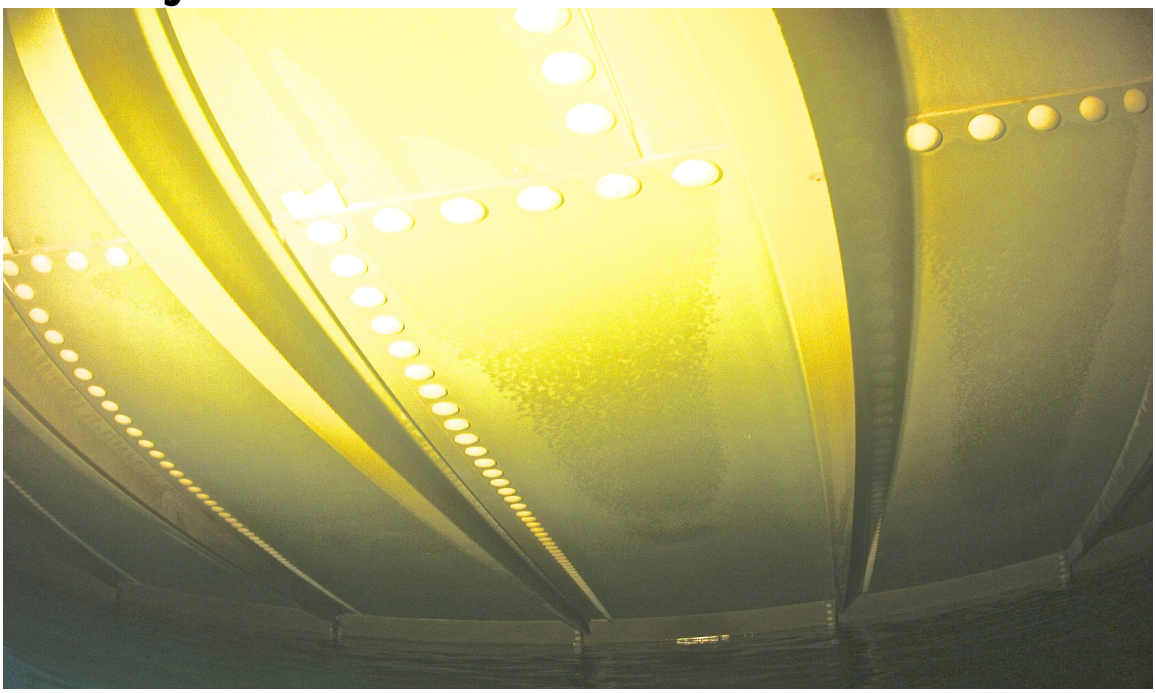


21. Ceiling

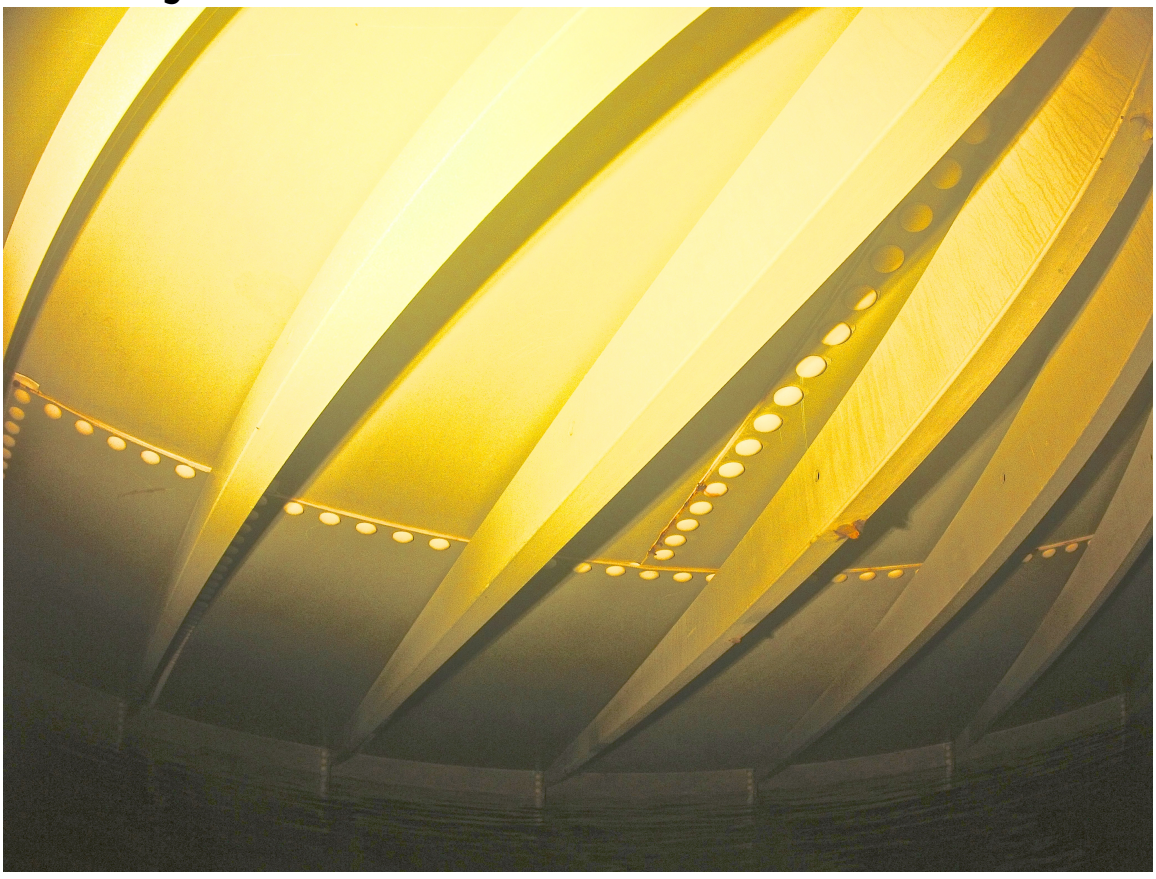
22. Ceiling



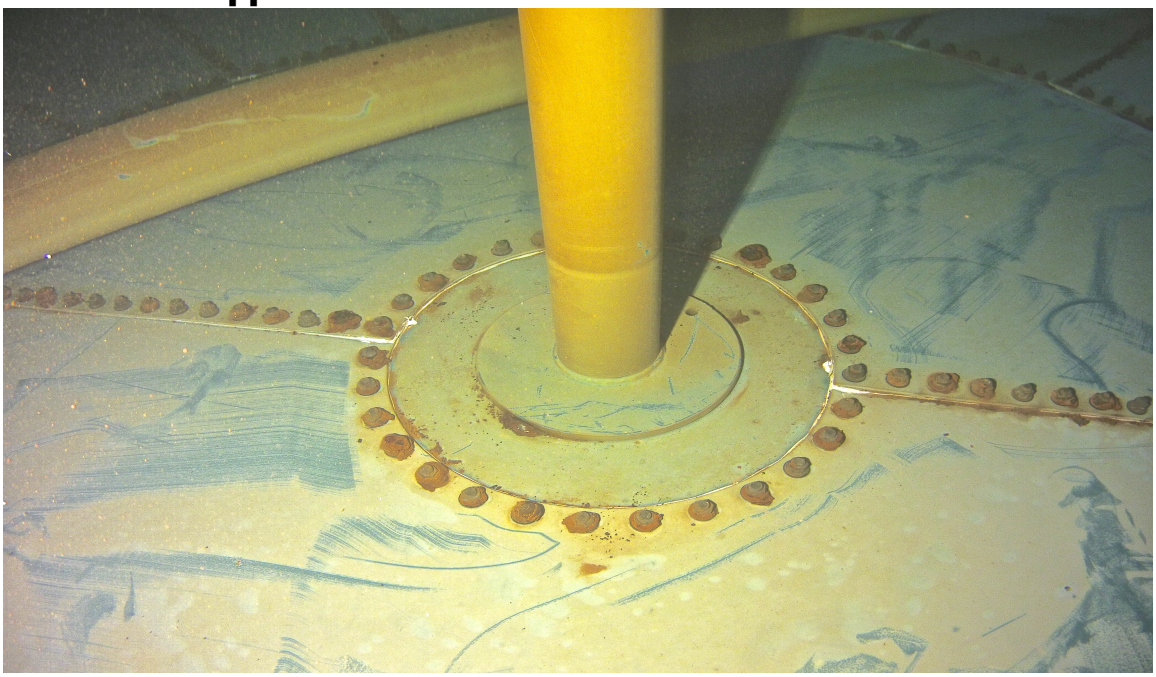
23. Ceiling



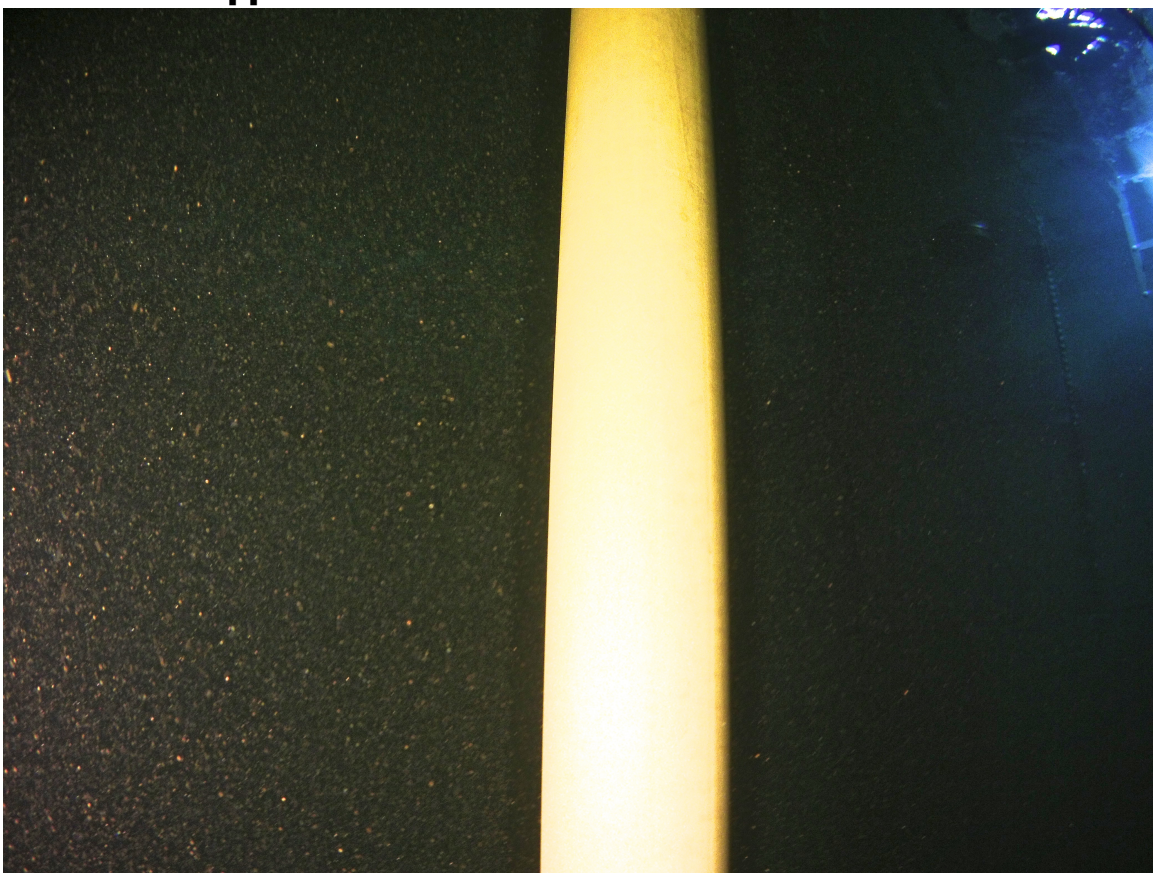
24. Ceiling



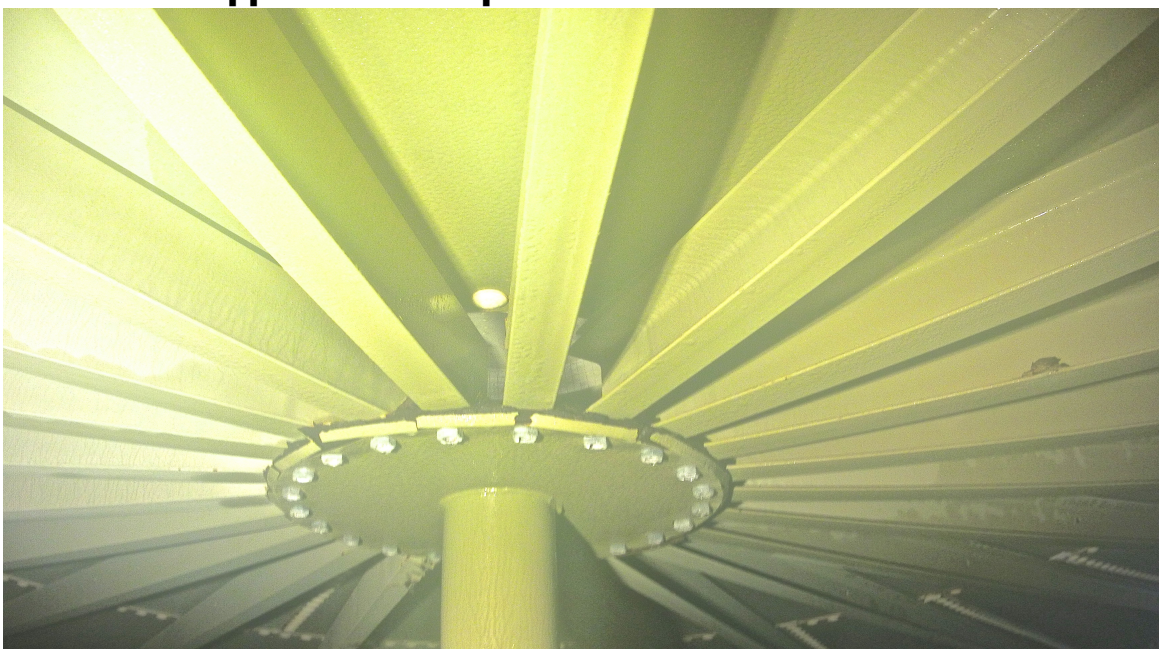
25. Center Support Pole - Base



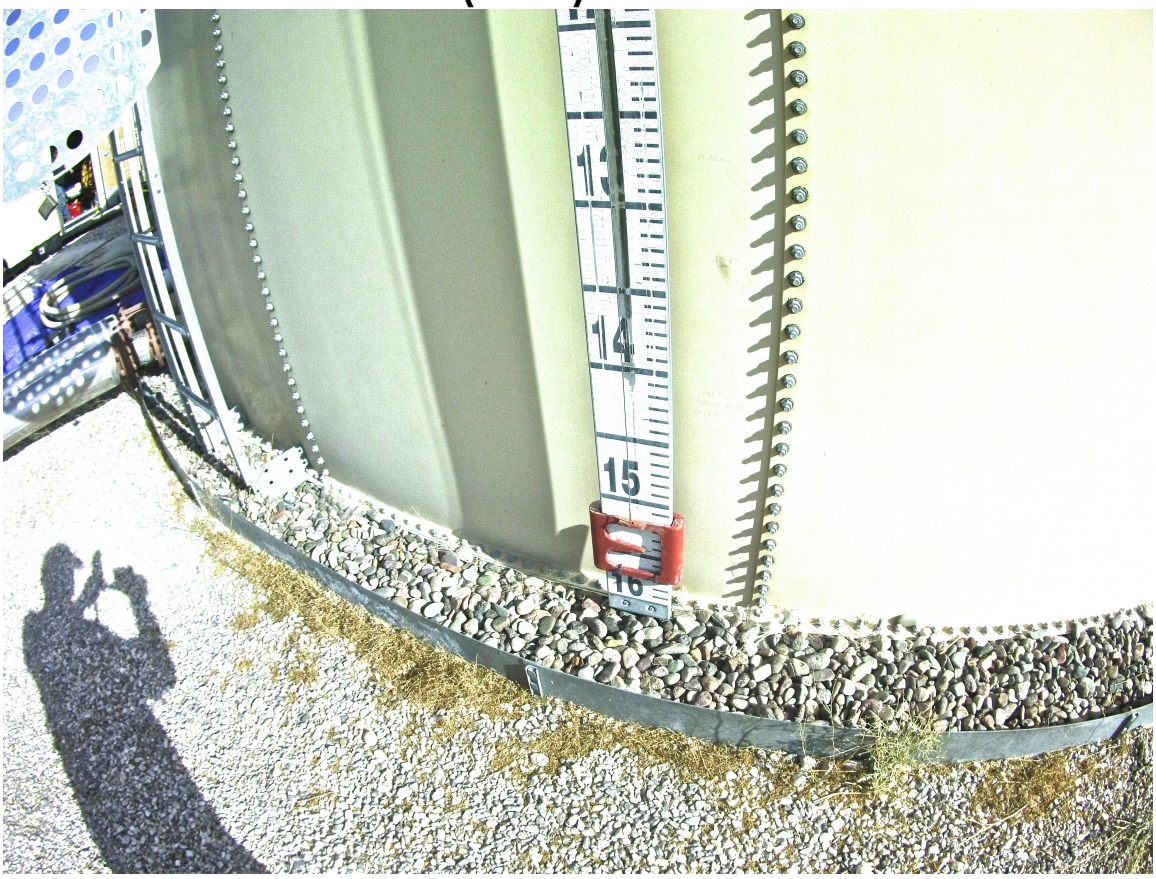
26. Center Support Pole - Middle



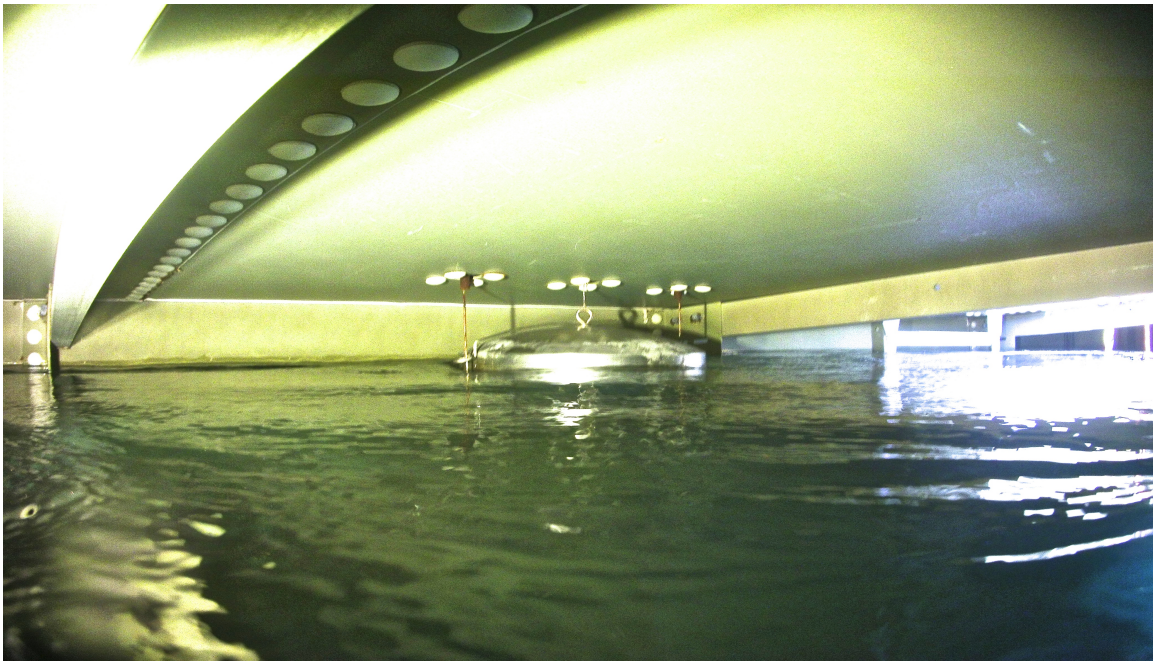
27. Center Support Pole - Top



28. Water Level Indicator - (W.L.I.)



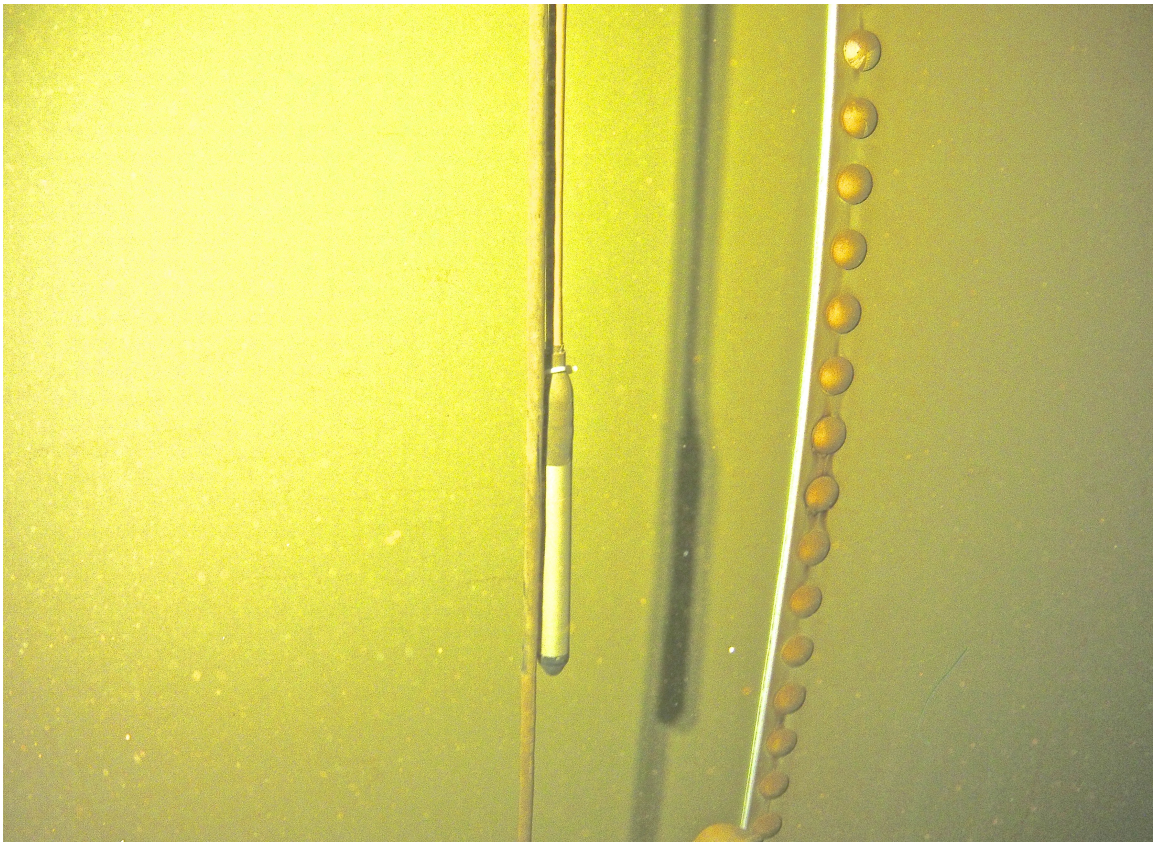
29. W.I.I. Float - Surface



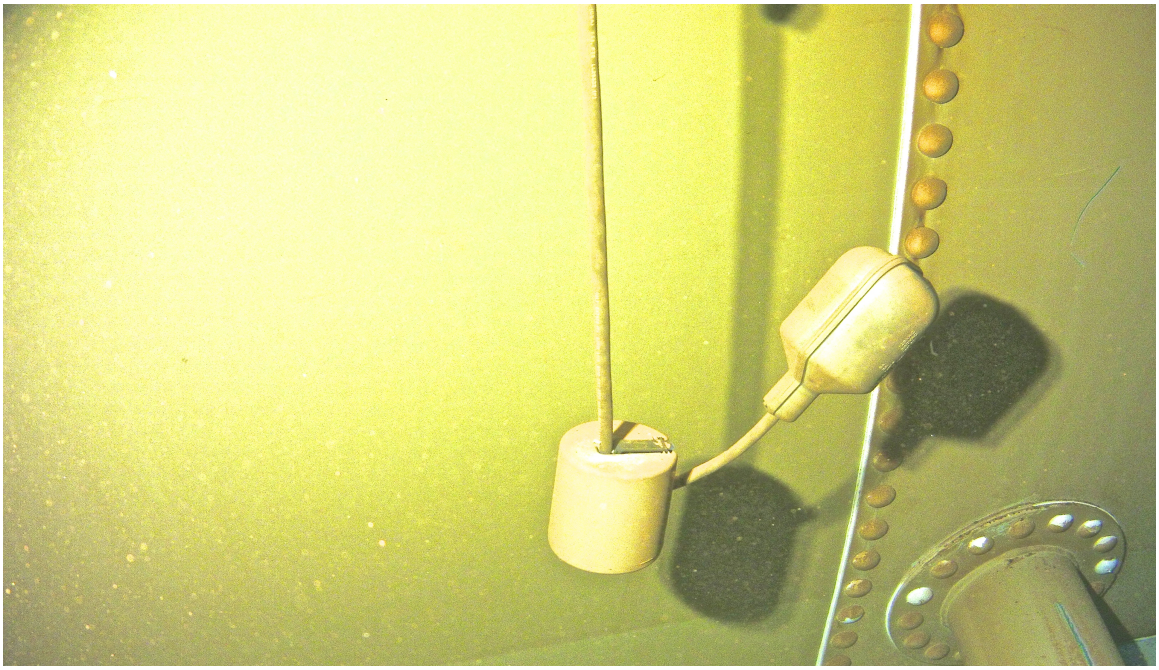
30. W.L.I. Guide Wires - Base

31. W.L.I. Transducer Box

32. W.L.I. Transducer

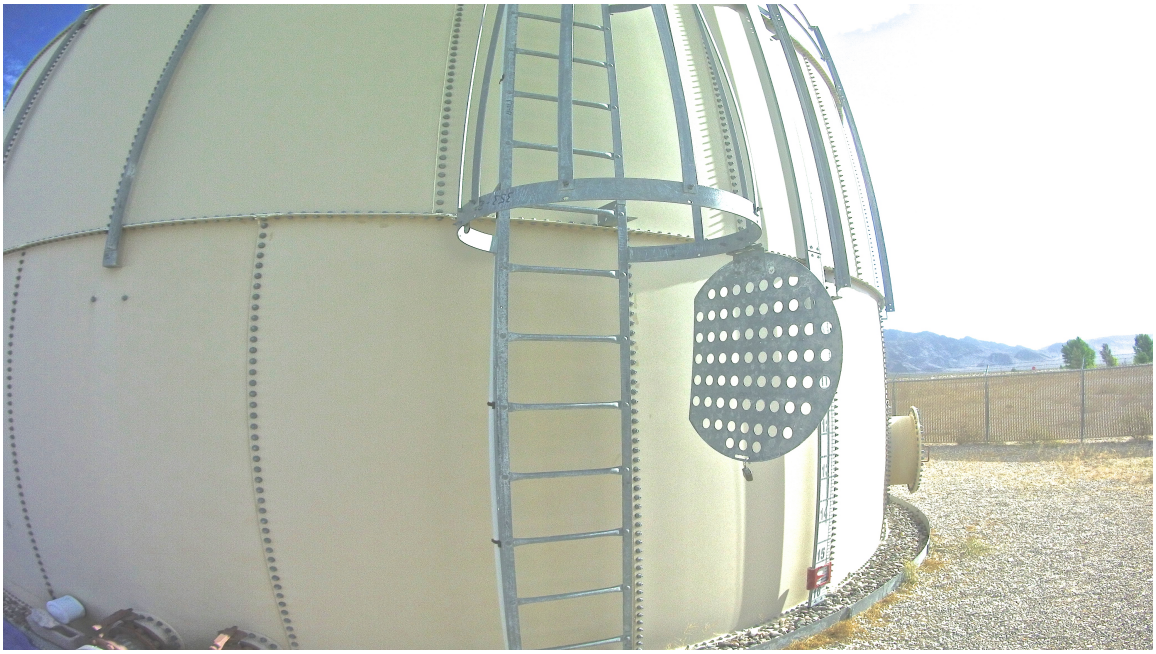


33. Lo-Water Level Float



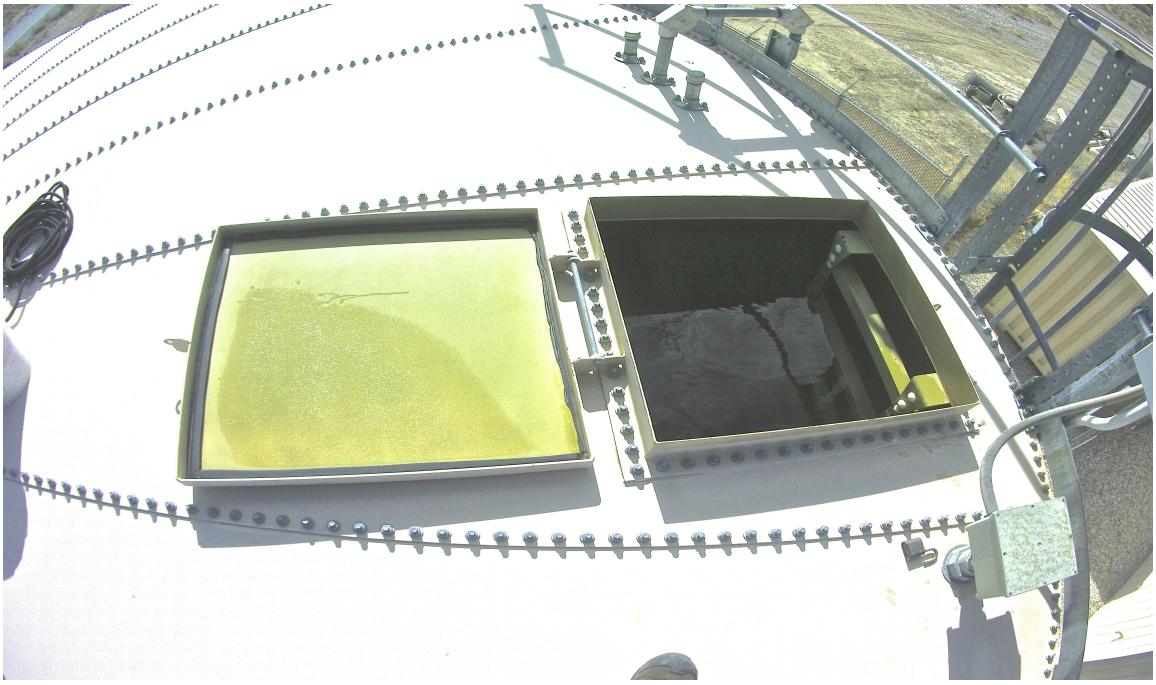
34. Center Roof Vent

35. Exterior Ladder

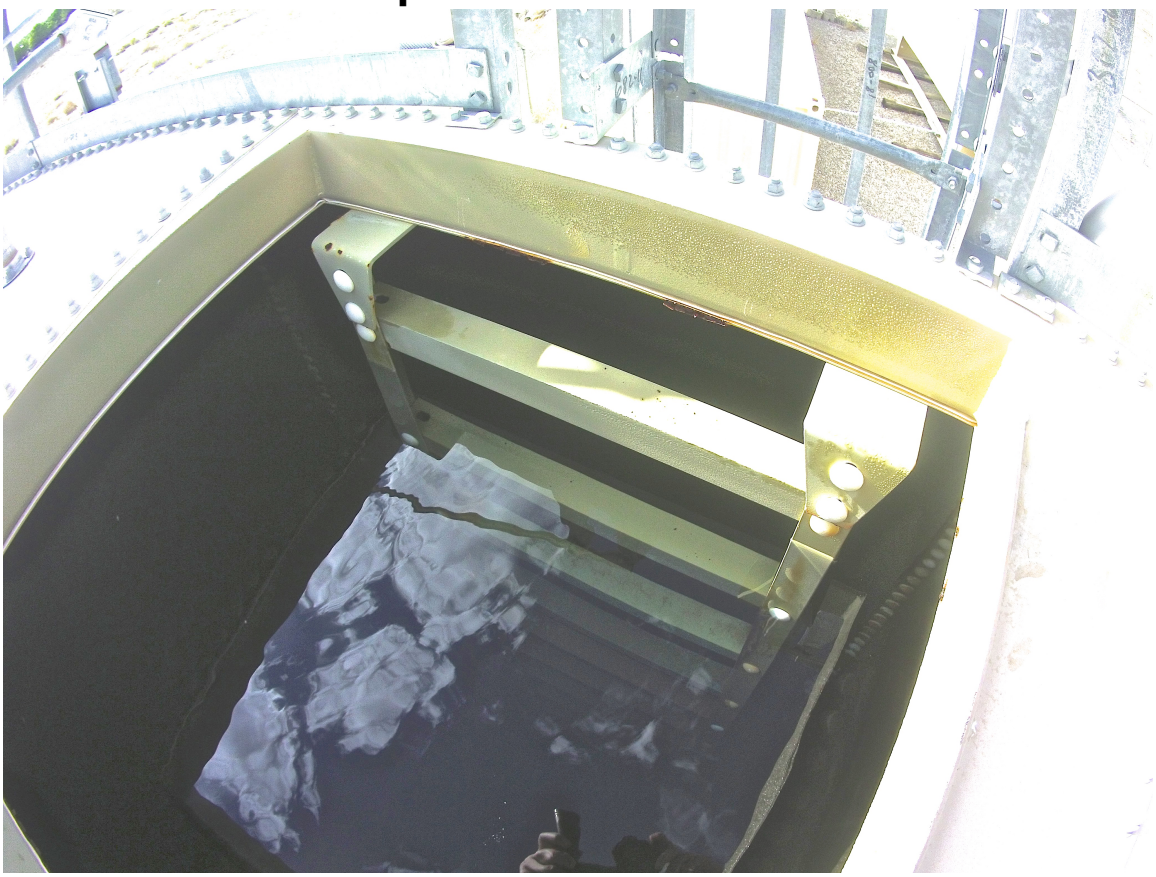


36. Exterior Ladder

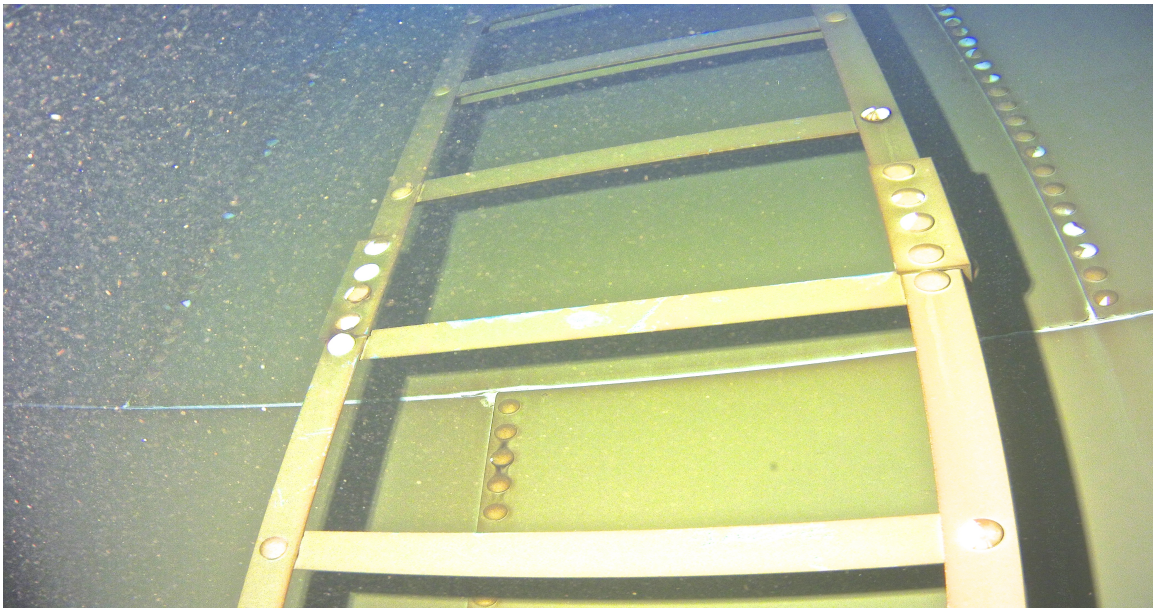
37. Access Hatch



38. Interior Ladder - Top



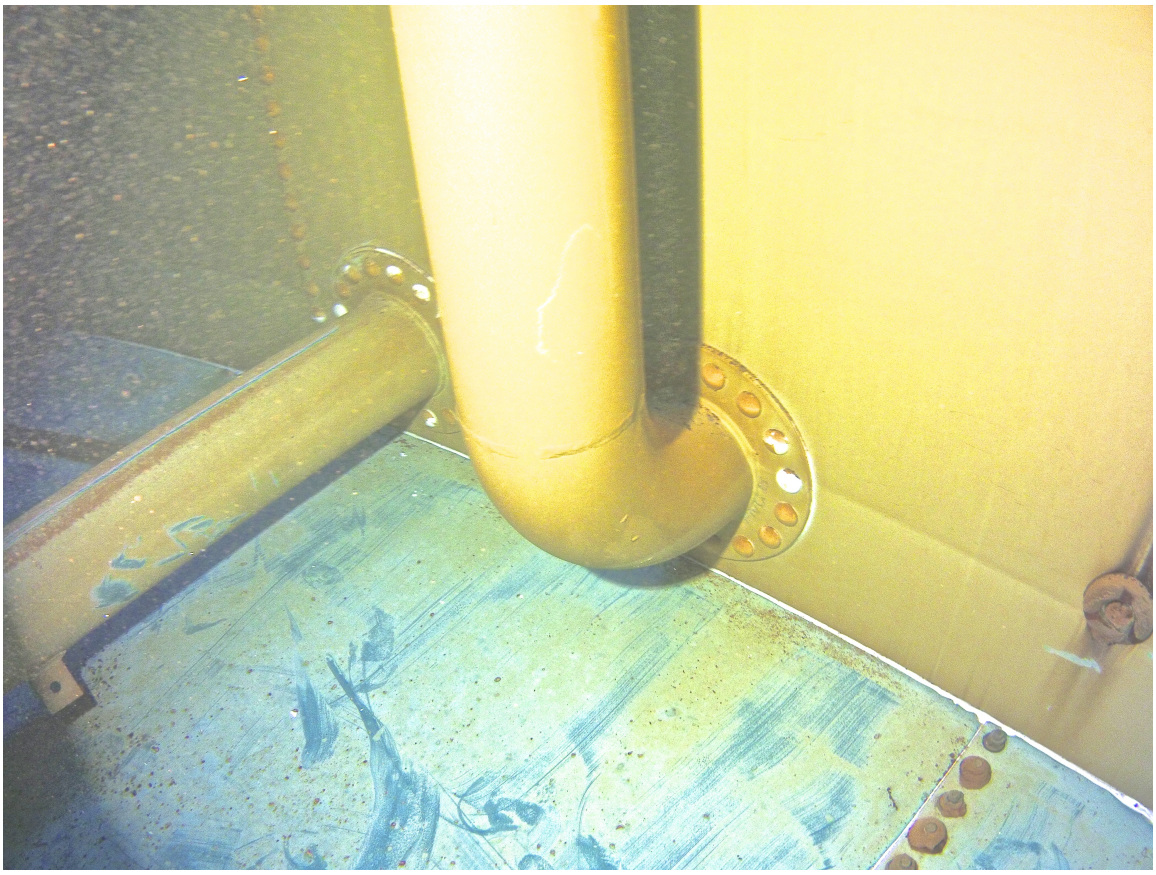
39. Interior Ladder - Middle



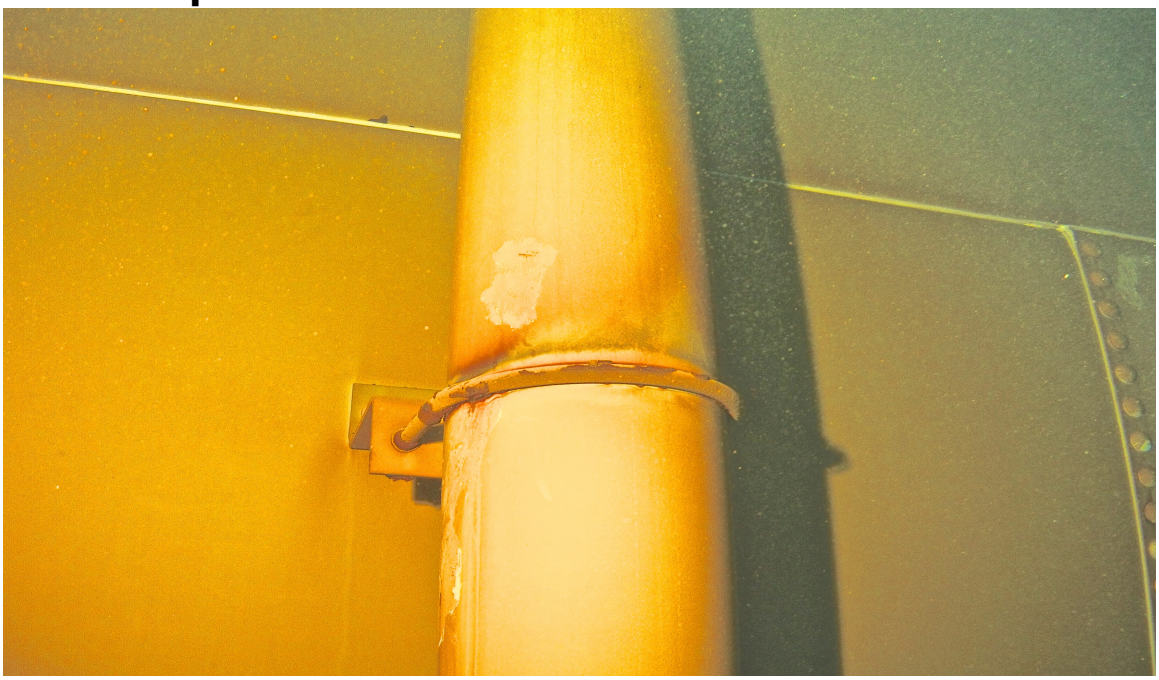
40. Interior Ladder - Bottom

41. Inlet

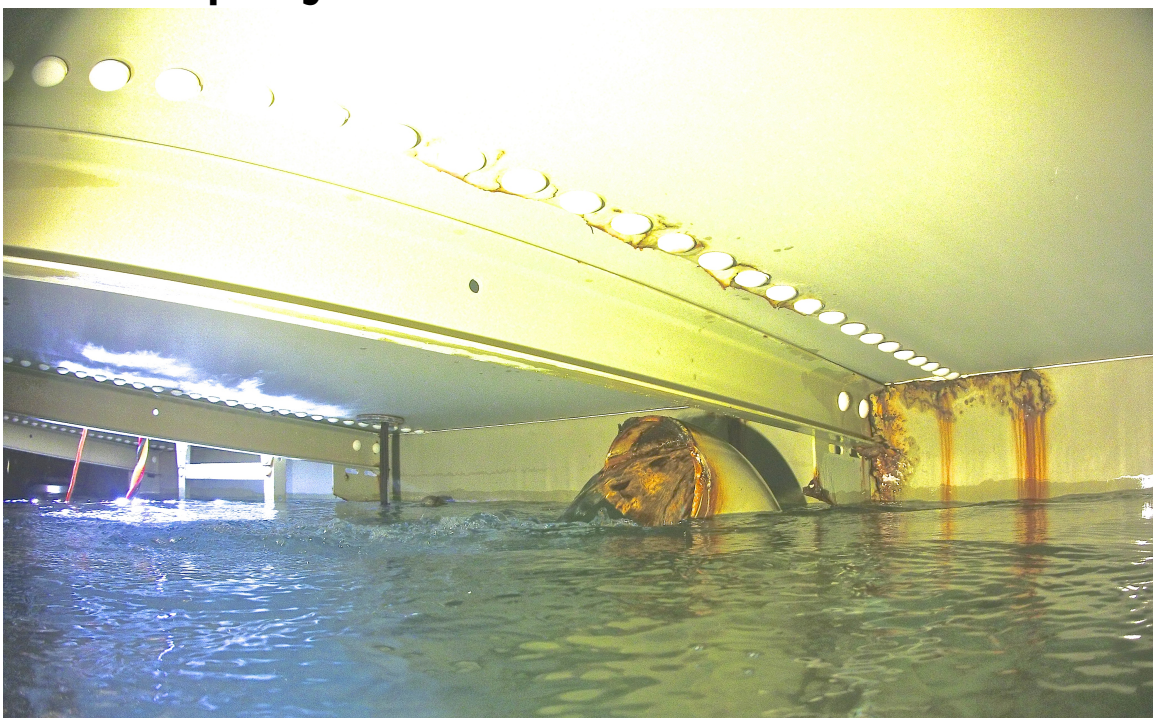
42. Inlet - Elbow



43. Inlet Pipe



44. Inlet - Opening

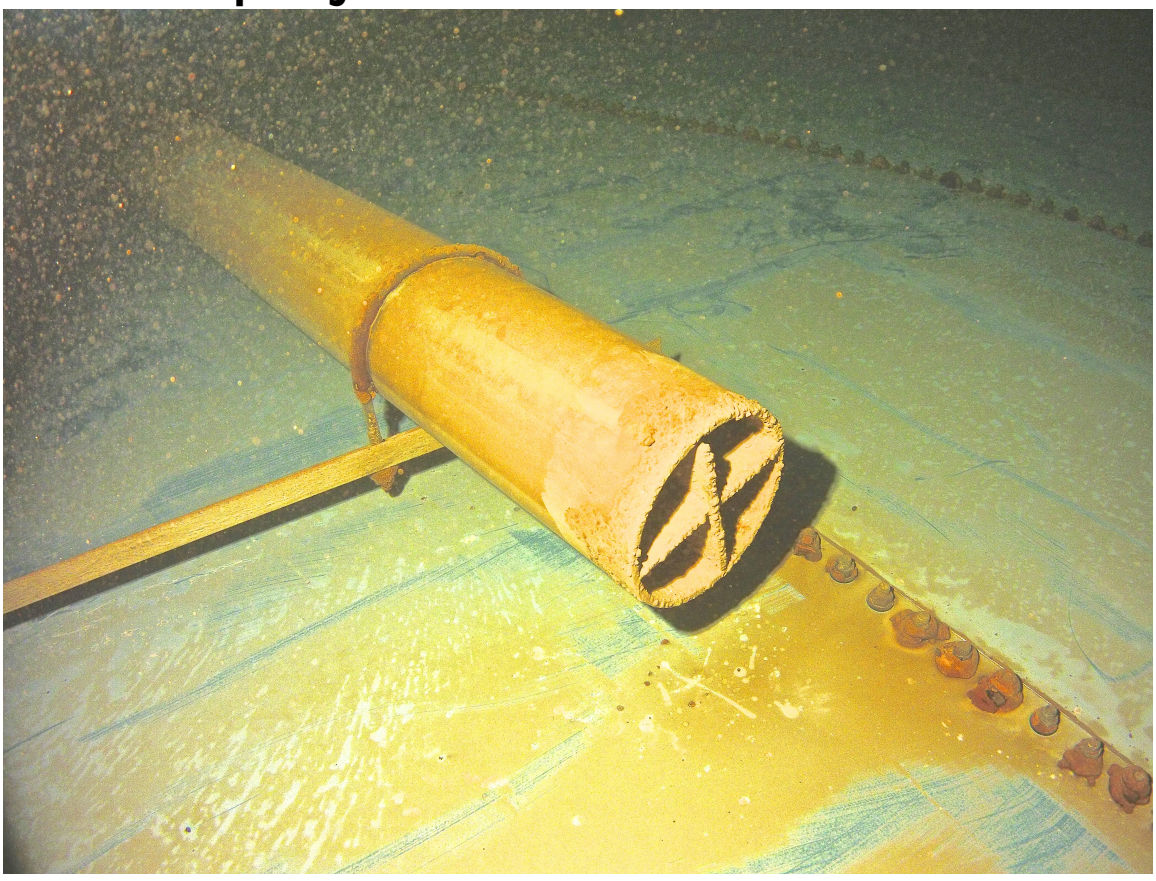


45. Outlet

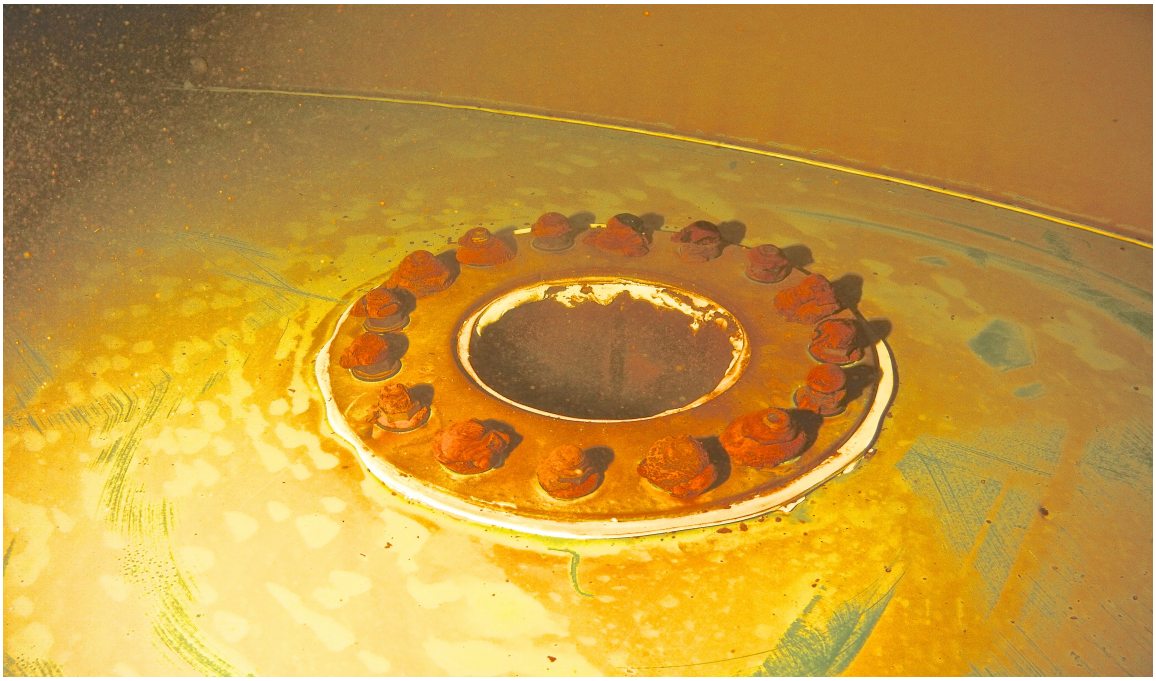
46. Outlet at Penetration

47. Outlet Pipe

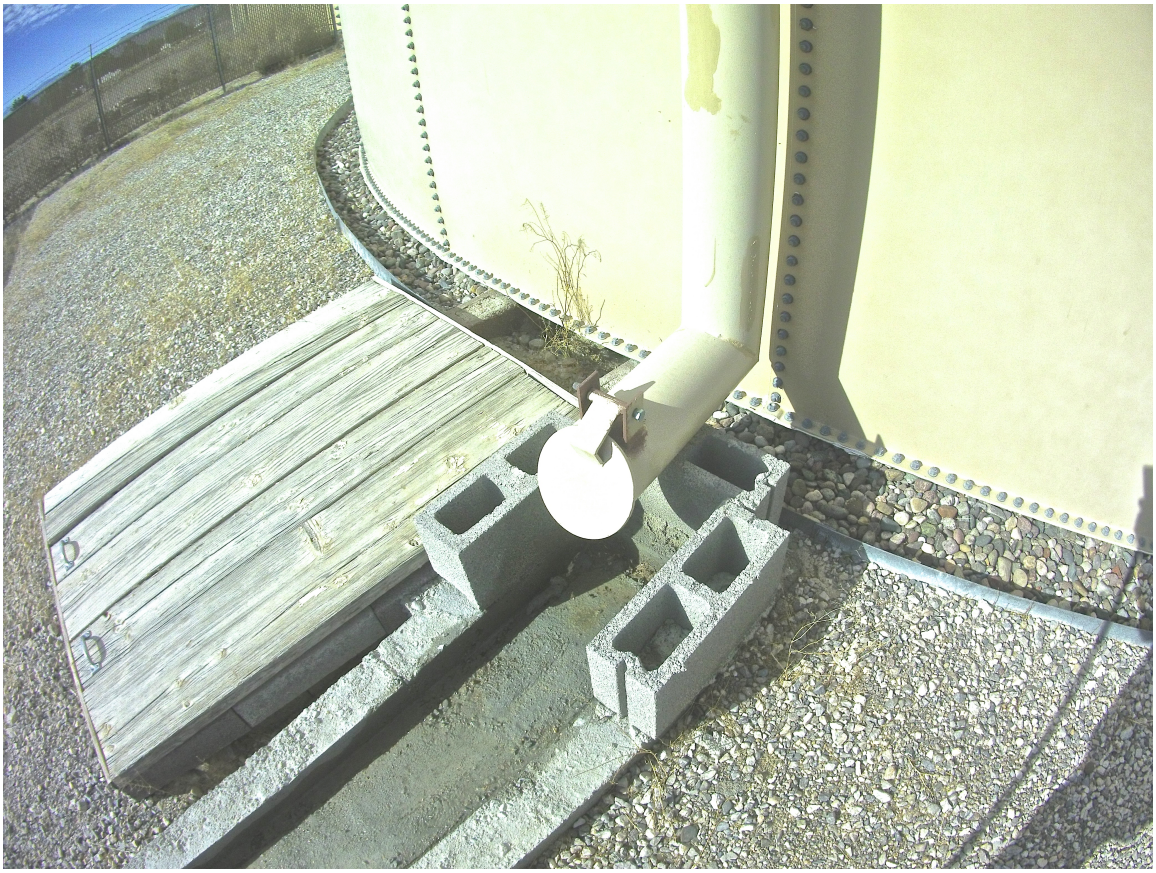
48. Outlet - Opening



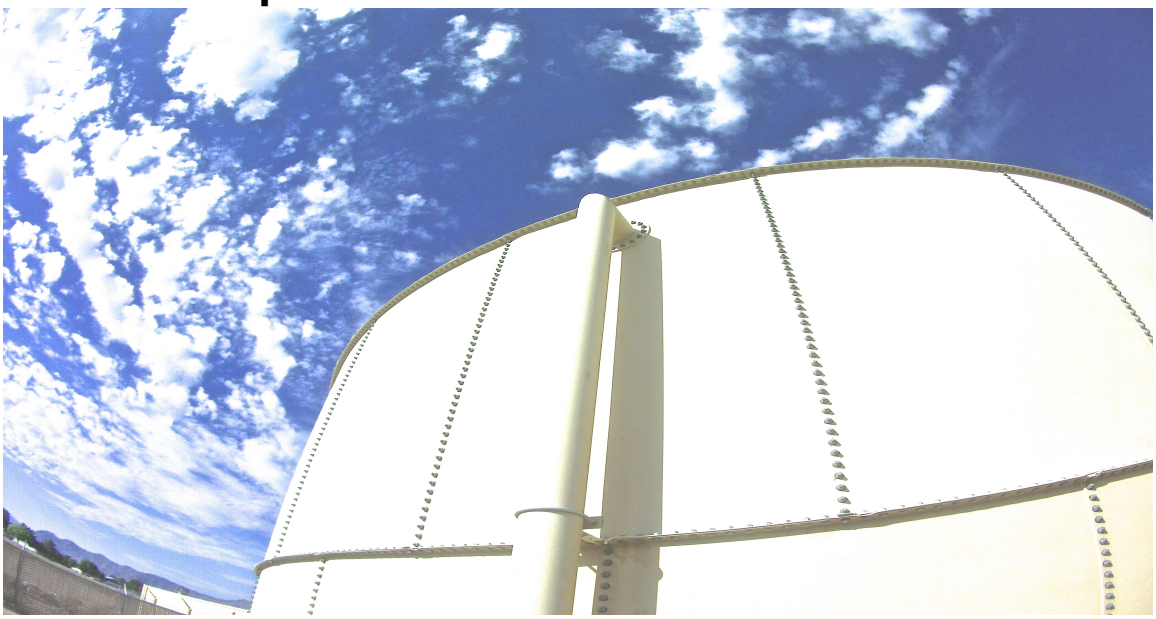
49. Drain



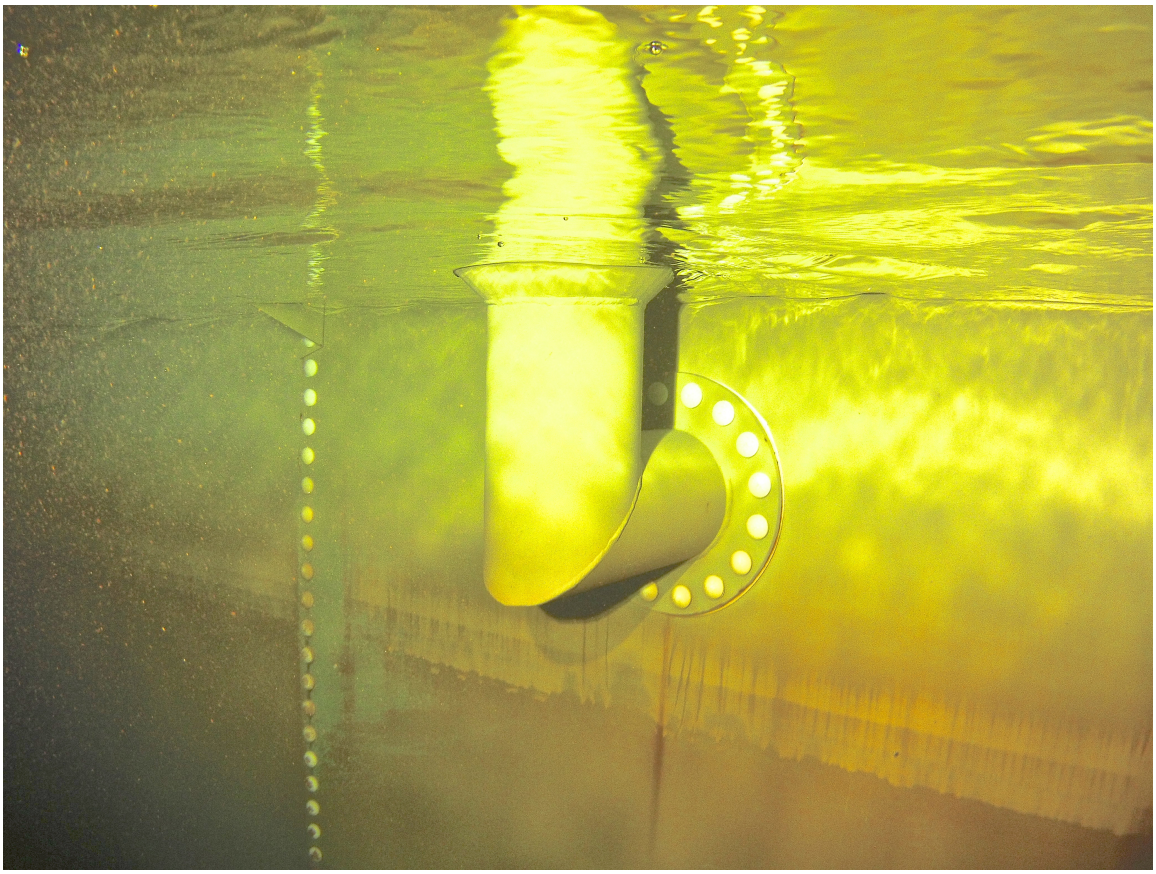
50. Overflow at Bottom



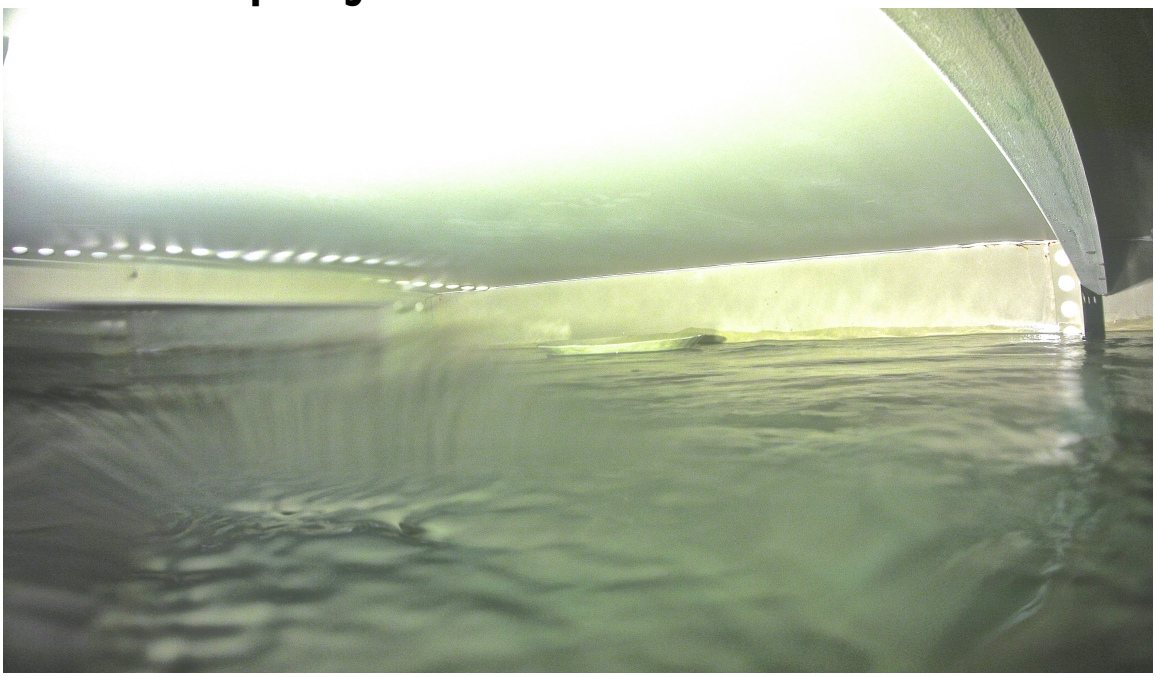
51. Overflow Pipe - Middle



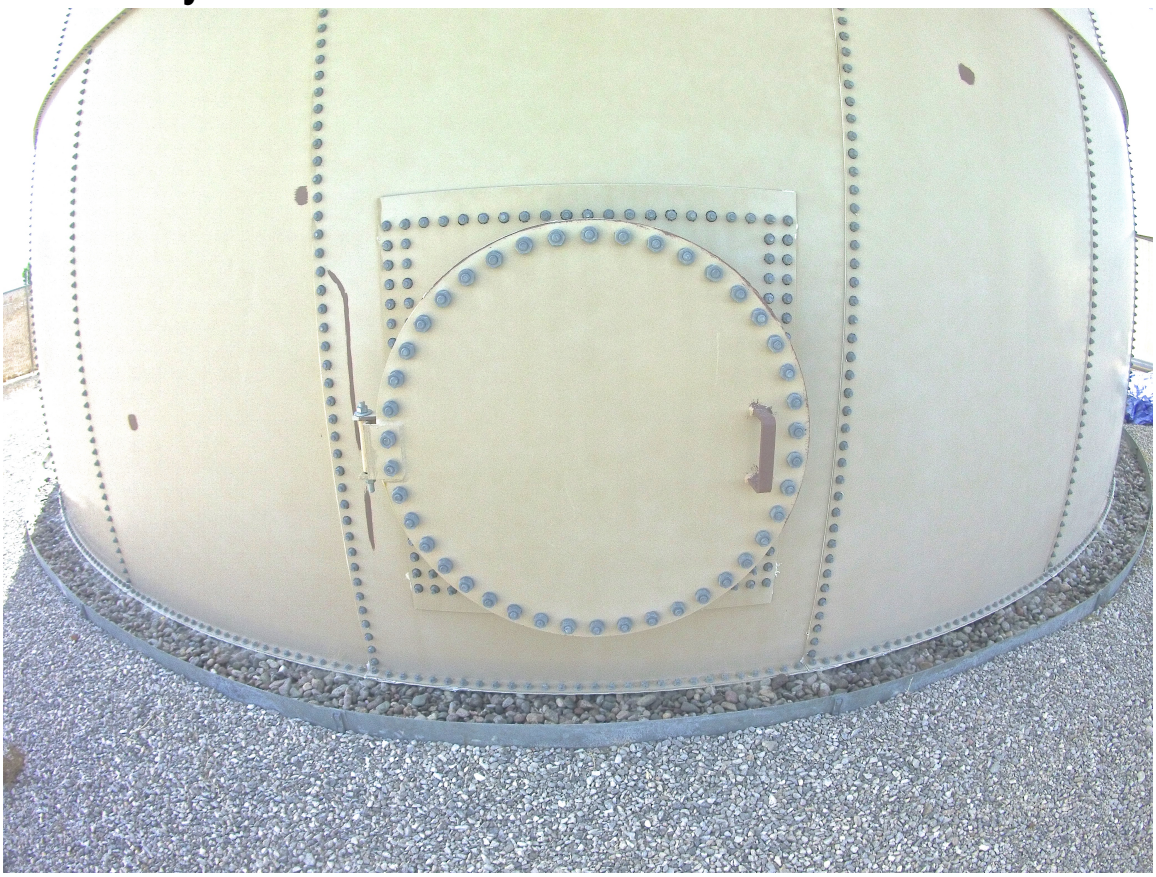
52. Overflow Elbow



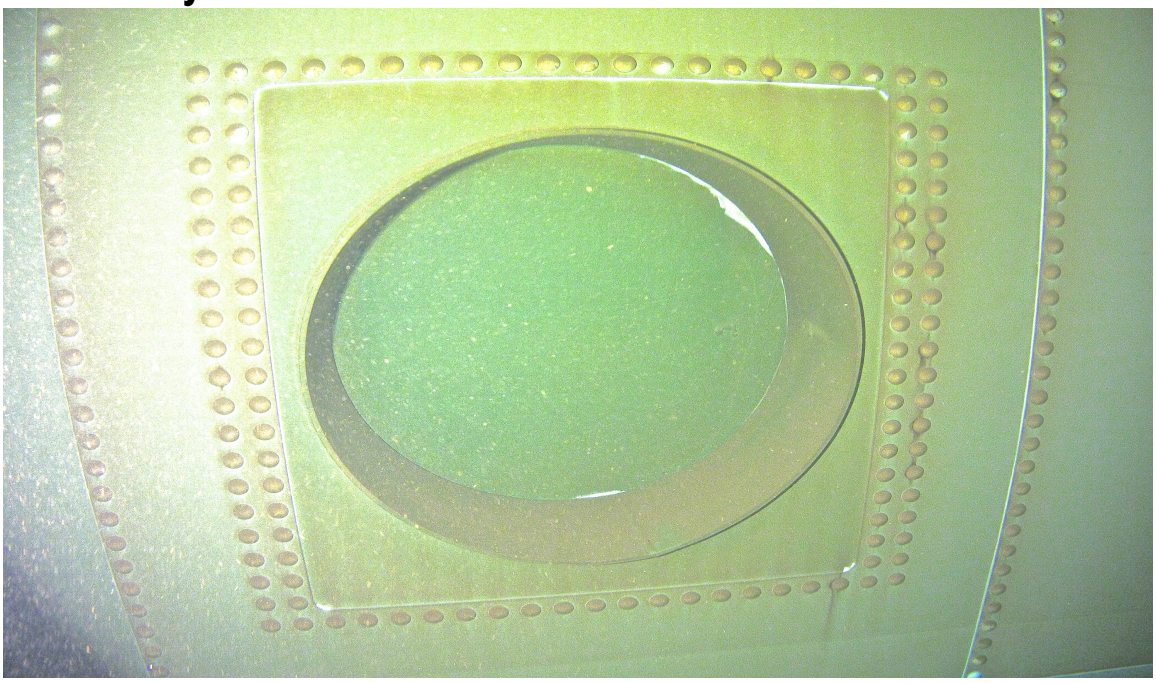
53. Overflow Opening



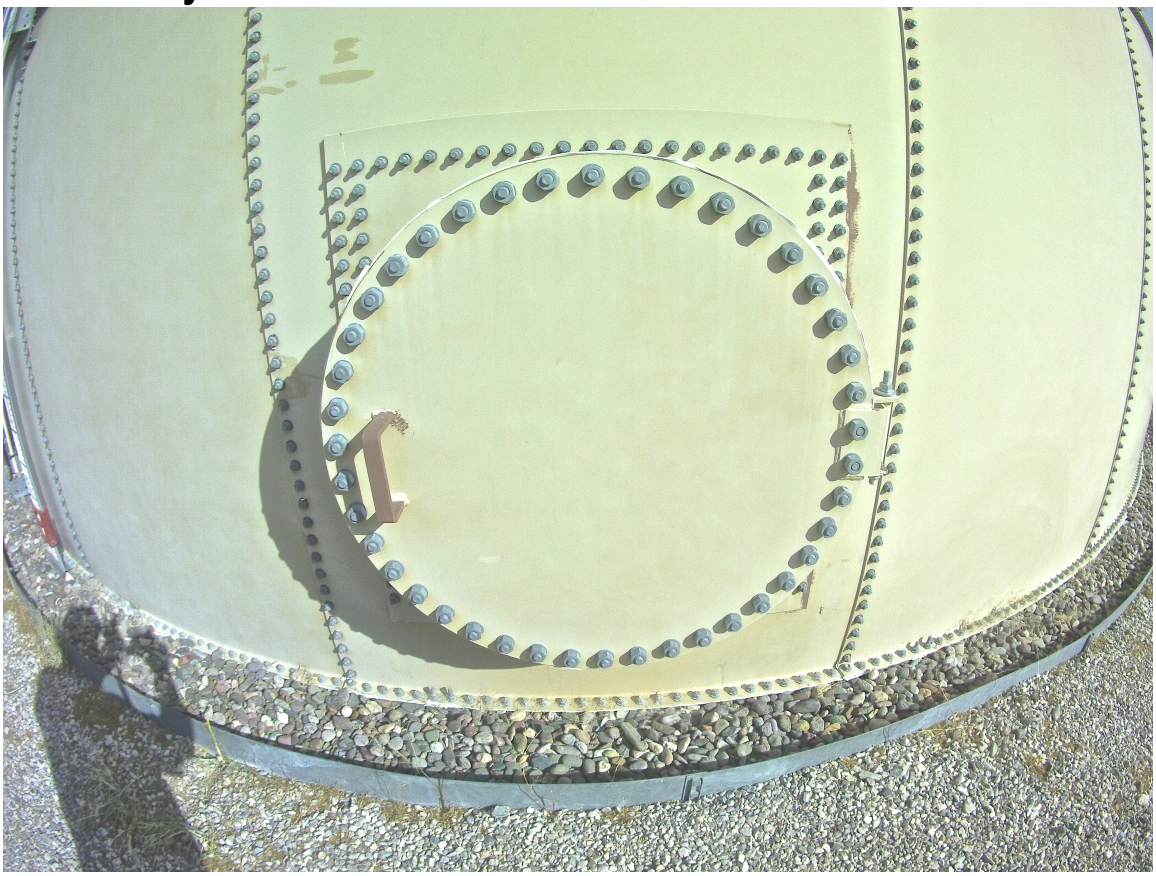
54. Manway #1



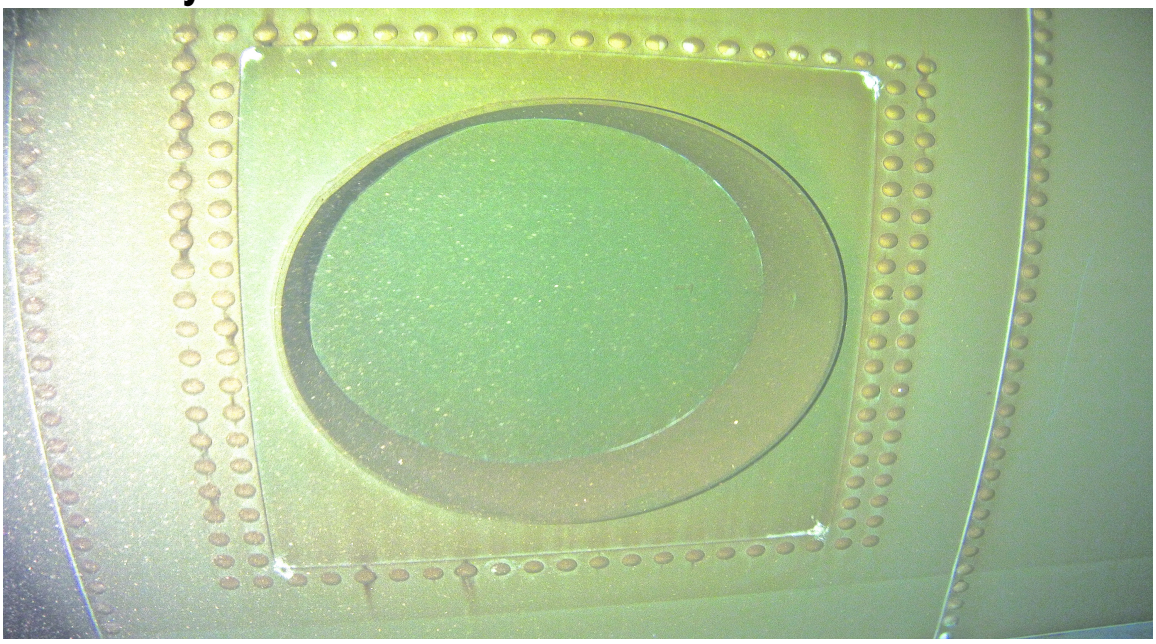
55. Manway #1



56. Manway #2



57. Manway #2



58. Sample Tap

59. Sample Tap