

**Inspection Report for  
Apple Valley Heights CWD  
Apple Valley, CA**



**15KG Steel On-Grade  
West Tank**

**Date Completed: March 7, 2015**

**Commercial Dive Team:**

**Diver –Jeff Roberts  
Dive Controller –Sam Jones  
Tender –Zach Rogers**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth averaging 2 inches (iron & manganese) was removed from tank floor. When the cleaning process was finished, a full visual inspection was performed of the tank interior and all interior fixtures. The team also performed a full visual inspection of the tank exterior and all attached fixtures. The details of the inspection findings are included in the report below.

## **Summary of the Inspection:**

### **Exterior Inspection**

1. There was good access to the tank. (In a gated area)
2. The galvanized ladder was found secure, OSHA approved and in good condition with oxidation and 2% corrosion noted.
3. The roof was found in good condition with 3% surface corrosion noted.
4. The hatch was found bolted shut with a partial gasket present and in good condition with oxidation noted.
5. The wall was found in good condition with dents and less than 1% surface corrosion noted.
6. The overflow was found in good to fair condition with oxidation and 50% surface corrosion noted.
7. The galvanized vent was found in good condition with oxidation and 40% surface corrosion noted and a screen in place.
8. The base of the tank was found in good condition.
9. The cable on the float level indicator was found broke and not functioning.
10. The manways were found secure and in good condition with less than 1% corrosion noted.

### **Interior Inspection**

1. The galvanized common inlet/outlet was found in good to fair condition with 100% surface corrosion noted.
2. The galvanized ladder was found secure and in good condition with 5% surface corrosion noted.
3. The galvanized manways were found in good condition with heavy staining and 3% surface corrosion noted.
4. The overflow was found in good to fair condition with 100% surface corrosion noted.
5. The drain was found in good to fair condition with 100% surface corrosion noted.
6. The galvanized interior wall was found in good condition with 2% surface corrosion noted.
7. The galvanized interior roof was found in good condition with de-alloying present on the hardware and 5% surface corrosion noted.
8. The galvanized support column was found secure and in good condition with small rust nodules present and 5% surface corrosion noted.
9. The uneven floor was found in poor condition with heavy staining, pitting and 95% rust noduling & surface corrosion noted. The hardware was also full of rust nodules. There were large rust nodules present that the diver was hesitant to open to check the depth of the pitting because he felt there was a potential for starting a leak.
10. The float was found in good condition but it was not connected to a cable.
11. There was a coating of a food grade oil on the whole interior of the tank.

## **Recommendations:**

1. Due to the heavy rust noduling on the lower portion of the tank, it is recommended that the tank be replaced. While it remains online, it is suggested that epoxy be applied to the critical areas in the tank. (1 day)

## **Key**

**Excellent – Like new, no repairs needed**

**Good – Cosmetic problems, repair if utility wants**

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**



# Inland Potable Services, Inc.

## Exterior Inspection Report



### Access Ladder Condition

Ladder Type: Steel  
 Coating Condition: N/A  
 Corrosion Present? Y  N   
 Seams/Welds Condition: Good  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Stand Off Supports Condition: Good  
 Safety Climb Type: None  
 Safety Climb Condition: N/A  
 Is Top Of Tank Easily Accessible? Y  N   
 Is The Ladder and Safety Climb OSHA Approved? Y  N

Summary: The galvanized ladder was found secure, OSHA approved and in good condition with oxidation and 2% corrosion noted.



### Roof Condition

Coating Condition: N/A  
 Corrosion Present? Y  N   
 Percentage: 3%  
 Seams/Welds Condition: Good  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Low Spots Present? Y  N   
 Holes in Roof? Y  N   
 Cathodic Protection Plates Present? Y  N   
 Sealed Edges: Y  N  N/A   
 Loose Plates? Y  N  N/A   
 Missing Plates? Y  N  N/A

Summary: The roof was found in good condition with 3% surface corrosion noted.



### Access Hatch Condition

Coating Condition: N/A  
 Corrosion Present: Y  N   
 Seams/Welds Condition: Good  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 20 inch round  
 Hatch Locked? Y  N   
 Hinge Condition: N/A  
 Gasket Present? Y  N   
 Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found bolted shut with a partial gasket present and in good condition with oxidation noted.



### Wall Panel Condition

Coating Condition: Good  
Corrosion Present? Y  N   
Percentage: less than 1%  
Seams/Welds Condition: Good  
Oxidation Present? Y  N   
De-lamination Present? Y  N

Dents Present? Y  N   
Holes Present? Y  N

Summary: The wall was found in good condition with dents and less than 1% surface corrosion noted.



### Overflow Structure Condition

Coating Condition: N/A  
Corrosion Present? Y  N   
Percentage: 50%  
Seams/Welds Condition: Good  
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Stand Off Supports Condition: N/A

End Cap Present? Y  N   
Hinge And Cap Condition: Good  
Screen Present? Y  N   
Condition: N/A

Summary: The overflow was found in good to fair condition with oxidation and 50% surface corrosion noted.



### Vent Condition

Coating Condition: N/A  
Corrosion Present: Y  N   
Percentage: 40%  
Seams/Welds Condition: Good  
Oxidation Present? Y  N   
De-lamination Present? Y  N   
  
Screen in Place? Y  N   
Condition: Excellent  
All Openings Sealed? Y  N   
Cap Condition: Good

Summary: The galvanized vent was found in good condition with oxidation and 40% surface corrosion noted and a screen in place.



### Foundation Condition

Foundation Exposed? Y  N   
Anchor Bolts Present? Y  N   
Corrosion on Anchor Bolts Present? Y  N  N/A   
Anchor Bolts Loose? Y  N  N/A   
  
Cracking Noted In Foundation? Y  N   
Spalling Noted? Y  N

Summary: The base of the tank was found in good condition.



### Float Level Indicator Condition

Pulley Condition: Good  
Attached Properly? Y  N   
Cable Condition: Poor  
Attached Properly? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N   
Marker Condition: Good  
Attached & accurate? Y  N   
Corrosion Present? Y  N

Summary: The cable on the float level indicator was found broke and not functioning.



## Manway Condition

Coating Condition: Both Good  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N   
Percentage: less than 1%

Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The manways were found secure and in good condition with less than 1% corrosion noted.





# Inland Potable Services, Inc.

## Interior Inspection Report



### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N  Location: 12:15 o'clock  
If No:  
Outlet Location: N/A  
Inlet Location: N/A  
Coating Condition: N/A  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Percentage: 100%  
Pitting Noted In Metal? Y  N   
Depth: N/A

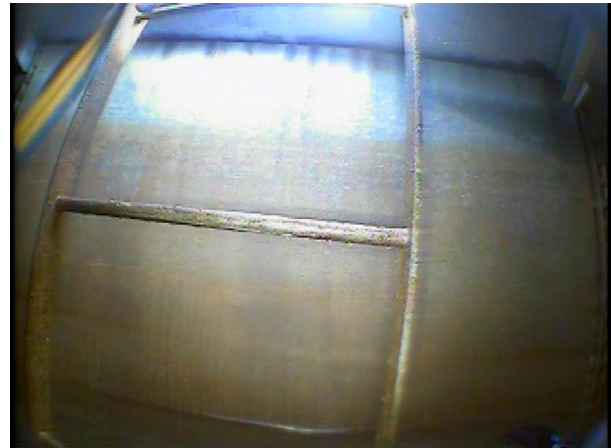
Summary: The galvanized common inlet/outlet was found in good to fair condition with 100% surface corrosion noted.



### Ladder Condition

Ladder Location: 12 o'clock  
Coating Condition: N/A  
Weld/Seam Condition: Good  
Supports Condition: Good  
Corrosion Present? Y  N   
Percentage: 5%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The galvanized ladder was found secure and in good condition with 5% surface corrosion noted.



### Overflow Condition

Overflow Location: 9:15 o'clock  
Coating Condition: N/A  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Percentage: 100%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The overflow was found in good to fair condition with 100% surface corrosion noted.



## Manway Condition

Manway Locations: 2:45 o'clock & 8:45 o'clock

Coating Condition: N/A

Weld/Seam Condition: Both Good

Corrosion Present? Y  N

Percentage: 3%

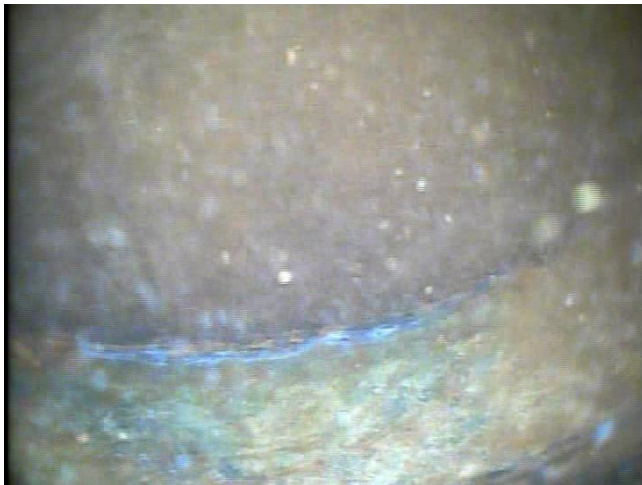
Pitting Noted In Metal? Y  N

Depth: N/A

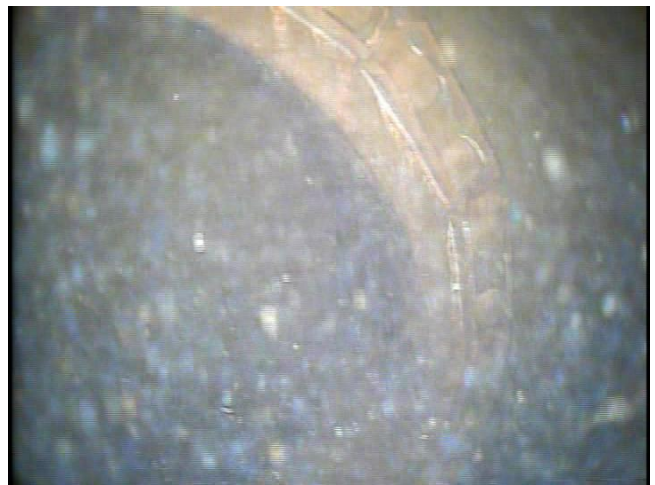
Summary: The galvanized manways were found in good condition with heavy staining and 3% surface corrosion noted.



Manway 2 close-up



Manway 1 inner seam



Manway 1 penetration

## Drain Condition

Drain Location: 9:15 o'clock

Coating Condition: N/A

Weld/Seam Condition: Good

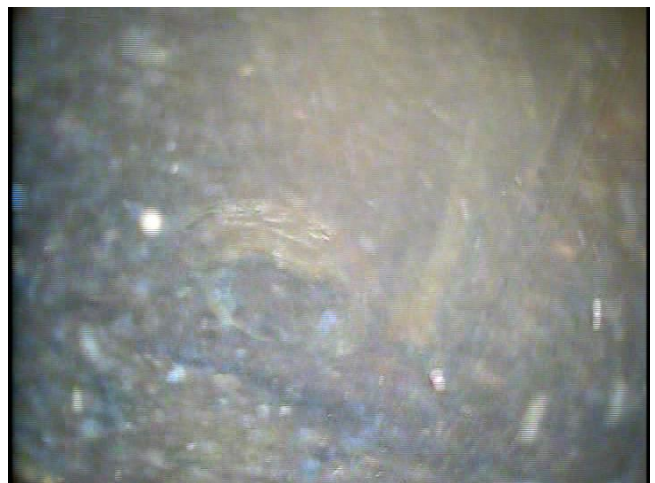
Corrosion Present? Y  N

Percentage: 100%

Pitting Noted In Metal? Y  N

Depth: N/A

Summary: The drain was found in good to fair condition with 100% surface corrosion noted.





### Wall Panel Condition

Coating Condition: N/A  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Percentage: 2%  
Pitting Noted In Metal? Y  N   
Depth: N/A

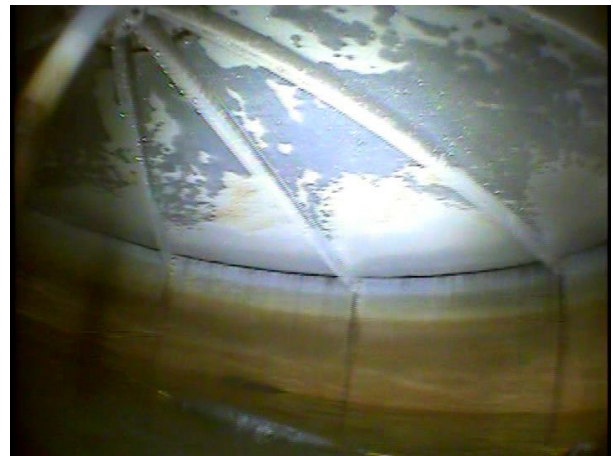
Summary: The galvanized interior wall was found in good condition with 2% surface corrosion noted.



### Roof Condition

Coating Condition: N/A  
Welds/seam Condition: Good  
Corrosion Present On Panels? Y  N   
Percentage: 5%  
Metal De-alloying Noted? Y  N   
Percentage: 1%

Summary: The galvanized interior roof was found in good condition with de-alloying present on the hardware and 5% surface corrosion noted.



### Float Level Indicator Condition

Guidelines Condition: Good  
Attached Properly? Y  N   
Cable Condition: N/A  
Attached Properly? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N   
Percentage: N/A  
Float Condition: Good

Summary: The float was found in good condition but it was not connected to a cable.



No cable

### Support Column Condition

Coating Condition: N/A  
 Welds/seam Condition: Good  
 Corrosion Present? Y  N   
 Percent: 5%

Pitting Noted In Metal? Y  N   
 Depth: N/A

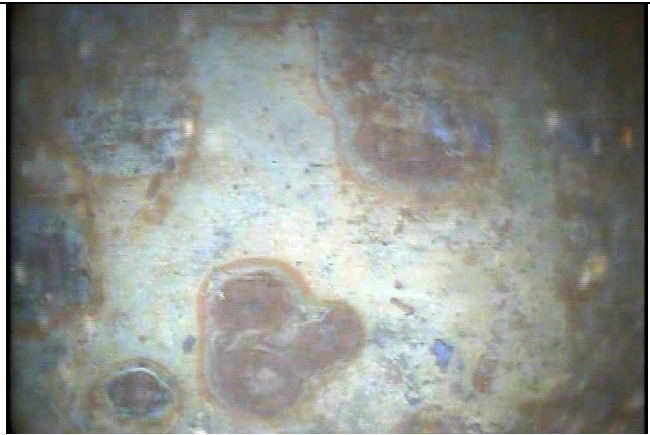
Summary: The galvanized support column was found secure and in good condition with small rust nodules present and 5% surface corrosion noted.



### Floor Condition

Coating Condition: N/A  
 Welds/seam Condition: Fair  
 Corrosion Present? Y  N   
 Percentage: 95%  
 Pitting Noted In Metal? Y  N   
 Depth: 1/32 inch

Summary: The uneven floor was found in poor condition with heavy staining, pitting and 95% rust noduling & surface corrosion noted. The hardware was also full of rust nodules. There were large rust nodules present that the diver was hesitant to open to check the depth of the pitting because he felt there was a potential for starting a leak.



Rust noduling



# Tank Layout

Quadrant #4

Quadrant #1

Access Hatch

Inlet/Outlet

Vent

Manway

Overflow Pipe

Drain

Support Column

Manway

Quadrant #3

Quadrant #2

