

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA**

oo0oo

In the Matter of:

Docket No. 24-\_\_\_\_\_

Application of Great Basin Water Co.,  
Pahrump, Spring Creek, Cold Springs,  
Pahrump, and Spanish Springs Divisions for  
Approval of its 2024 Integrated Resource  
Plan and to designate certain system  
improvement projects as eligible projects for  
which a system improvement rate may be  
established, and for relief properly related  
thereto.

**VOLUME 7 OF 18**

**Document Description**

**Page No.**

Appendix F, Part 1

2

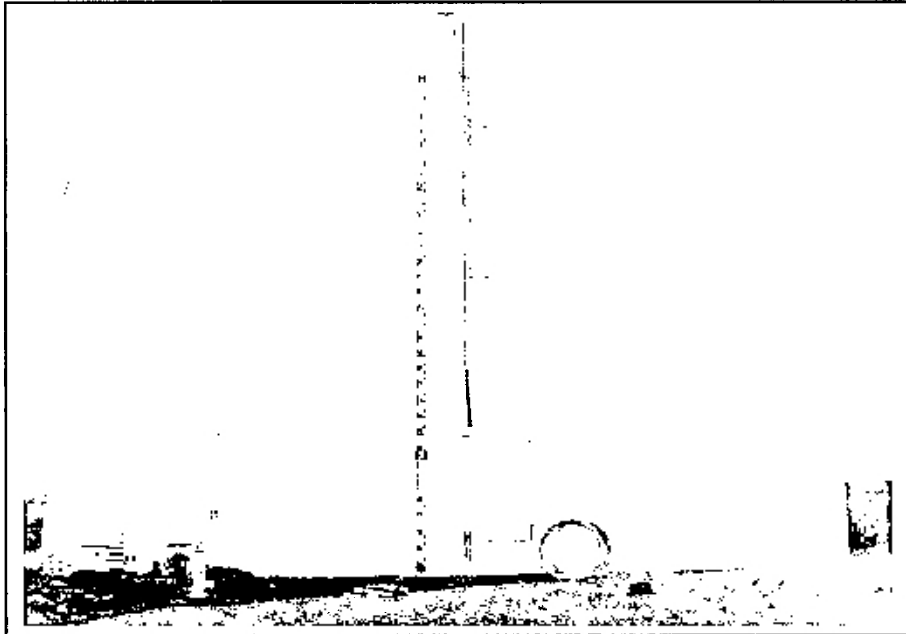
## APPENDIX F

### Tank Inspection Reports and Sanitary Surveys

***Great Basin Water Company – Pahrump Division (Volume II)***

Tank Inspection Reports

**Inspection Report for  
Great Basin Water Company  
Pahrump, NV**



**1.2MG Steel On-Grade  
High Zone Tank**

**Date Completed: August 2, 2018**

**Commercial Dive Team:**

**Diver –Nico LeBlanc  
Dive Controller –Josh McDonough  
Tender –Dakota Butts**



## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth, averaging 1/4 inch (iron, manganese & chlorine), was removed from the 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 foundation was found in good condition with minor voids, hairline cracking and areas of exposed aggregate noted.
3. The wall was found in good condition with heavy chalking noted.
4. The overflow was found in good condition with heavy chalking noted.
5. The water level indicator was found in good condition with 0.01% uniform surface corrosion noted.
6. The manways were found secure and in good condition with heavy chalking noted.
7. The ladder was found secure, OSHA approved and in good condition with heavy chalking noted.
8. The roof was found in good condition with minor staining and heavy chalking noted.
9. The hatch was found locked with a gasket in place and in good condition with heavy staining noted.
10. The vent was found in good condition with moderate de-lamination noted and a #8 screen present.

### **Interior Inspection**

1. The interior roof was found in good to fair condition with moderate staining, 0.01% rust noduling and 0.3% uniform surface corrosion noted.
2. The overflow was found in good condition with minor staining noted.
3. The ladder was found secure and in good condition with moderate de-lamination noted.
4. The interior wall was found in good condition with minor de-lamination, blistering, heavy staining and 1% uniform surface corrosion noted.
5. The floor was found in good condition with minor blistering and heavy staining noted.
6. The manways were found in good condition with heavy staining noted.
7. The common inlet/outlet was found in good condition with minor staining and 0.01% rust noduling noted.
8. The support column was found secure and in good condition with minor blistering and heavy staining noted.

## **Recommendations:**

1. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **Key**

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

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

**Fair – Minor problems, repairs needed**

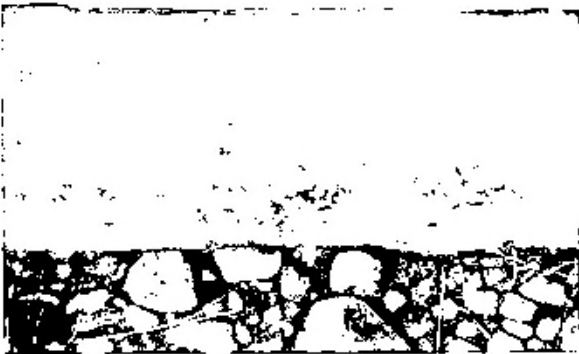

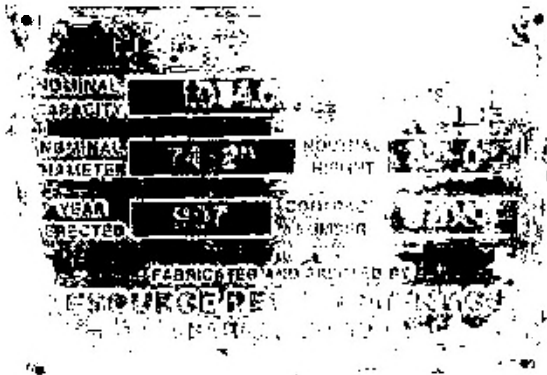
**Poor – Major problems, fix now**



## Inland Potable Services, Inc.

### Exterior Inspection Report



<b>Foundation Condition</b>	
Foundation Exposed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Anchor Bolts Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Corrosion on Anchor Bolts Present? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Anchor Bolts Loose? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Cracking Noted In Foundation? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>	Spalling Noted? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> N/A <input type="checkbox"/>  Summary: The foundation was found in good condition with minor voids, hairline cracking and areas of exposed aggregate noted.
	
<b>Wall Panel Condition</b>	
Coating Condition: Good Seams/Welds Condition: Good Corrosion Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Dents Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Holes Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Signs Of Leaking? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  Summary: The wall was found in good condition with heavy chalking noted.
	

**Overflow Structure Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: Good  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

Summary: The overflow was found in good condition with heavy chalking noted.



**Water Level Indicator Condition**

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Corrosion Present? Y  N   
 Marker Board Condition: Good  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

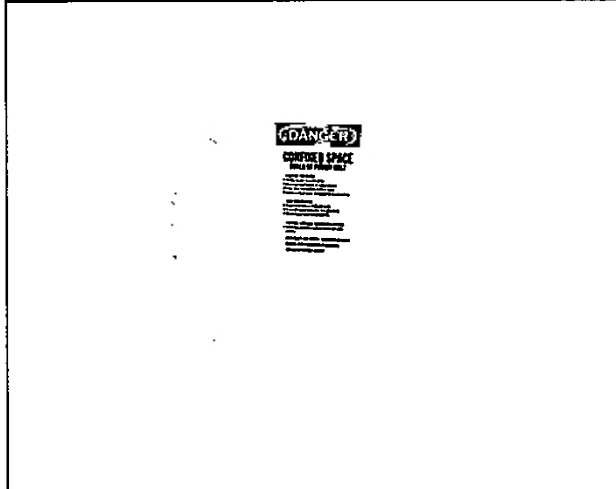
Summary: The water level indicator was found in good condition with 0.01% uniform surface corrosion noted.



**Manway Condition**

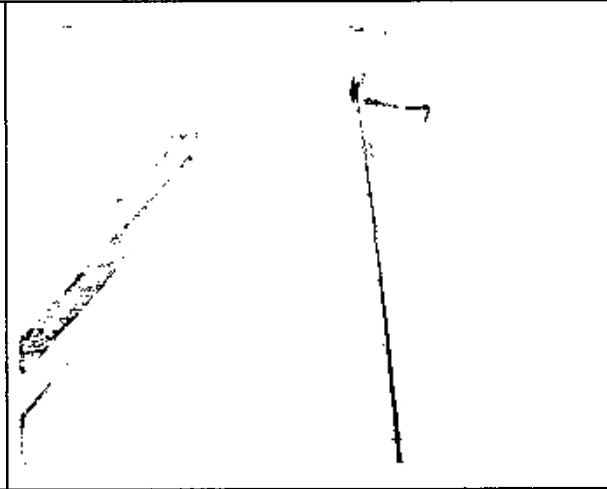
Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N   
 Summary: The manways were found secure and in good condition with heavy chalking noted.



**Access Ladder Condition**

Ladder Type: Steel welded  
 Is Ladder and Safety Climb OSHA Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Summary: The ladder was found secure, OSHA approved and in good condition with heavy chalking noted.



**Roof Condition**

Roof Type: Pitched  
Coating Condition: Good  
Seams/Welds Condition: Good  
Corrosion Present? Y  N   
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 minor staining and heavy chalking noted.

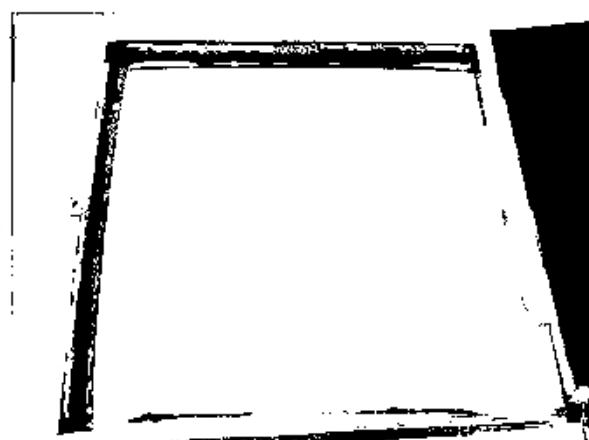
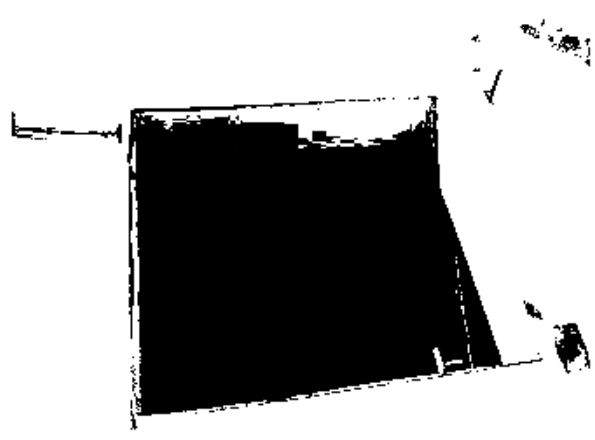


**Access Hatch Condition**

Coating Condition: Good  
Seams/Welds Condition: Good  
Corrosion Present: Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Hatch Size: 3 foot square  
Riser Height: 4 inches Lid Height: 2 inches  
Hatch Locked? Y  N

Hinge Condition: Good  
Gasket Present? Y  N   
Intact? Y  N  N/A   
Insects, Dirt Or Debris Present Under Hatch? Y  N

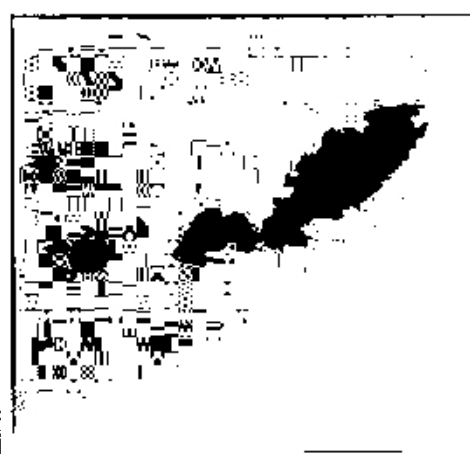
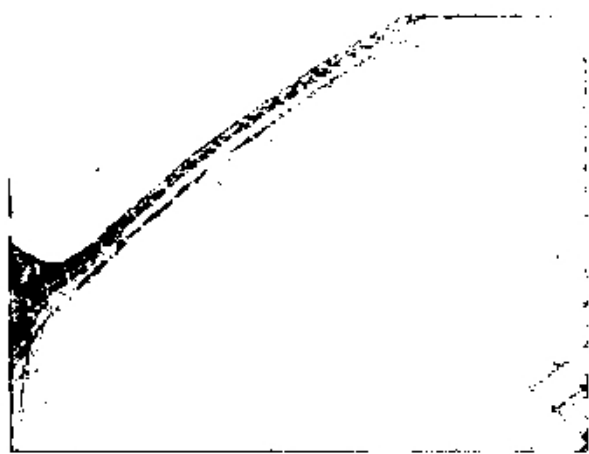
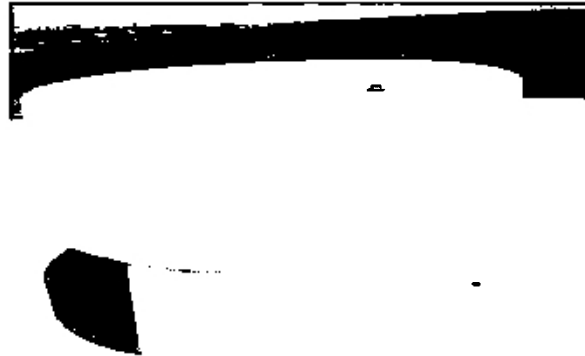
Summary: The hatch was found locked with a gasket in place and in good condition with heavy staining noted.



**Vent Condition**

Coating Condition: Good  
Seams/Welds Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
#24 Mesh Screen in Place? Y  N   
Condition: Good  
All Openings Sealed? Y  N   
Cap Condition: Good

Summary: The vent was found in good condition with moderate de-lamination noted and a #8 screen present.



De-lamination



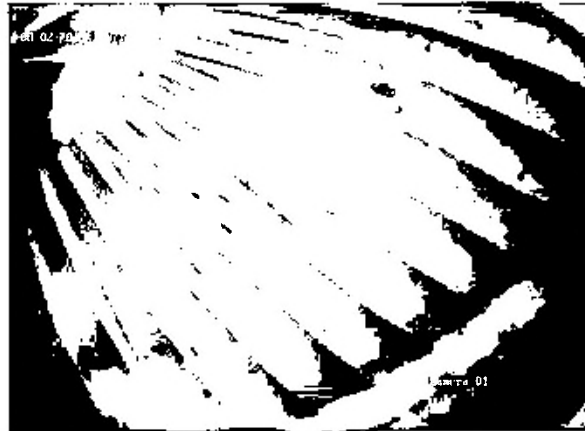
**Inland Potable Services, Inc.**  
**Interior Inspection Report**



**Roof Condition**

Coating Condition: Good/Fair  
 Welds/seam Condition: Good  
 Corrosion Present On Panels? Y  N   
 Metal De-alloying Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The interior roof was found in good to fair condition with moderate staining, 0.01% rust noduling and 0.3% uniform surface corrosion noted.



**Overflow Condition**

Overflow Location: 12:30 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

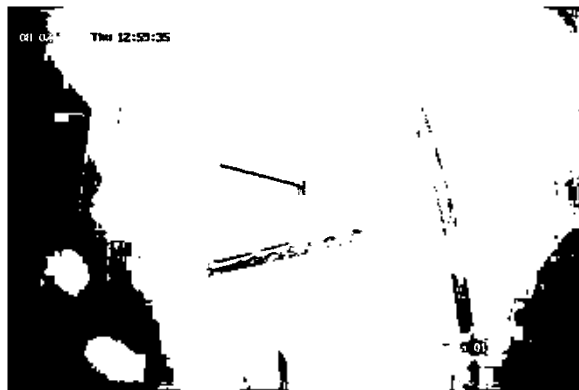
Summary: The overflow was found in good condition with minor staining noted.



**Ladder Condition**

Ladder Location: 12 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

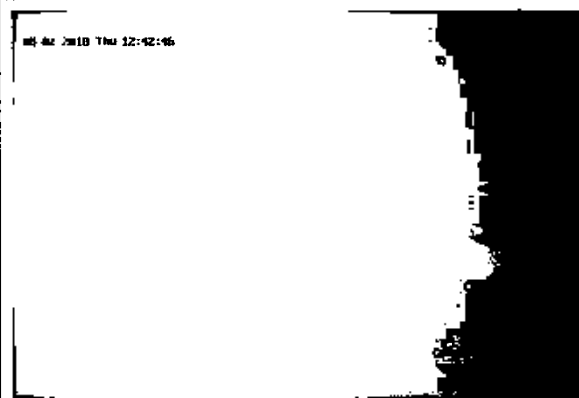
Summary: The ladder was found secure and in good condition with moderate de-lamination noted.



**Wall Panel Condition**

Coating Condition: Good/Fair  
 Welds/seam Condition: Good  
 Corrosion Present On Panel? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Is Biofilm Present: Y  N   
 Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good condition with minor de-lamination, blistering, heavy staining and 1% uniform surface corrosion noted.

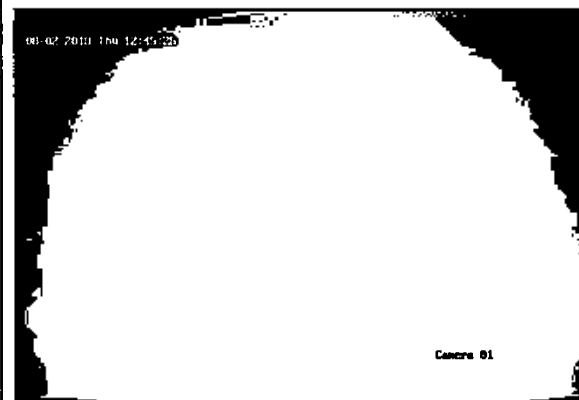
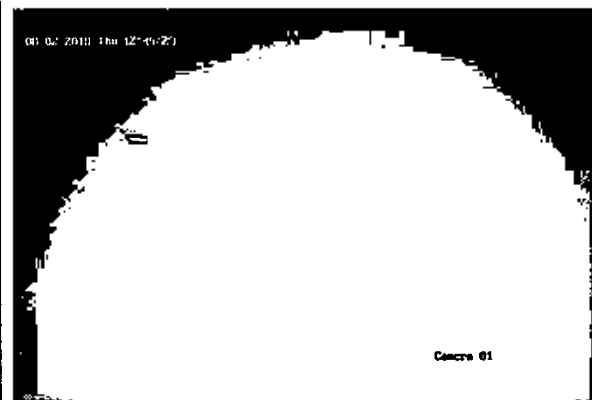


**Floor Condition**

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Sediment Depth: 1/4 inch  
 Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in good condition with minor blistering and heavy staining noted.



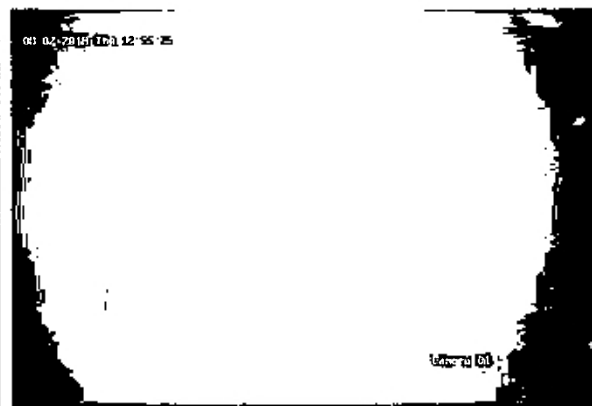
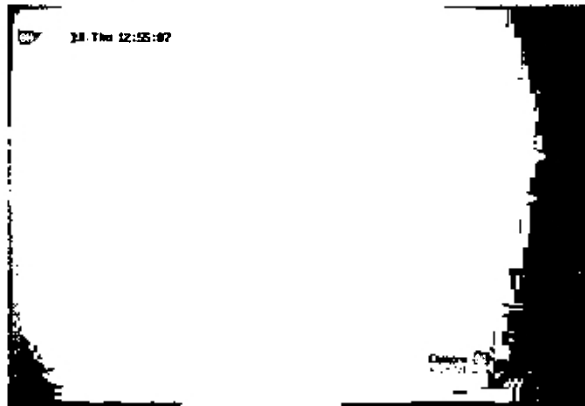


**Manway Condition**

Manway Location(s): 5 o'clock & 10 o'clock  
 Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N

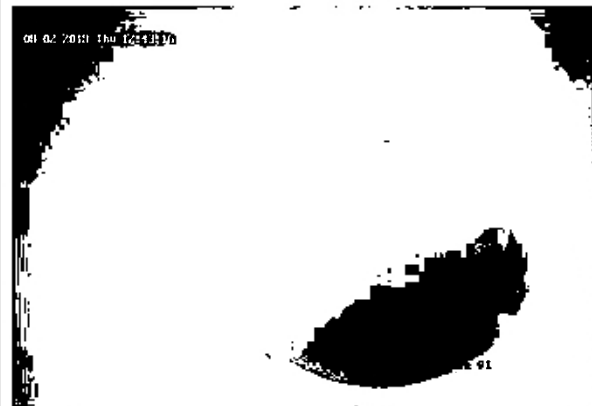
Summary: The manways were found in good condition with heavy staining noted.



**Inlet and Outlet Condition**

Common Inlet/Outlet? Y  N  Location: 2 o'clock  
 If Separate:  
 Outlet Location: N/A  
 Inlet Location: N/A  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The common inlet/outlet was found in good condition with minor staining and 0.01% rust noduling noted.



### Support Column Condition

Number Of Columns: 1

Coating Condition: Good

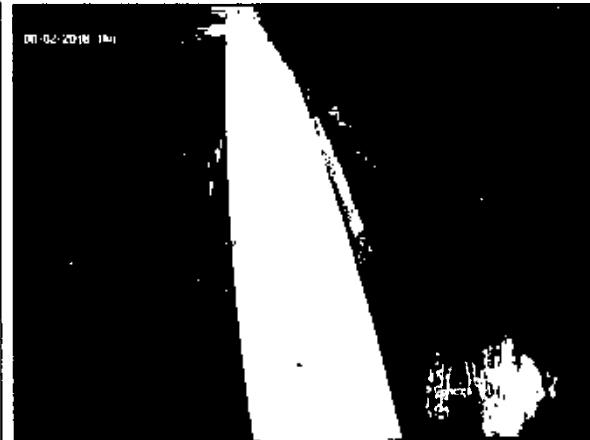
Welds/seam Condition: Good

Corrosion Present? Y  N

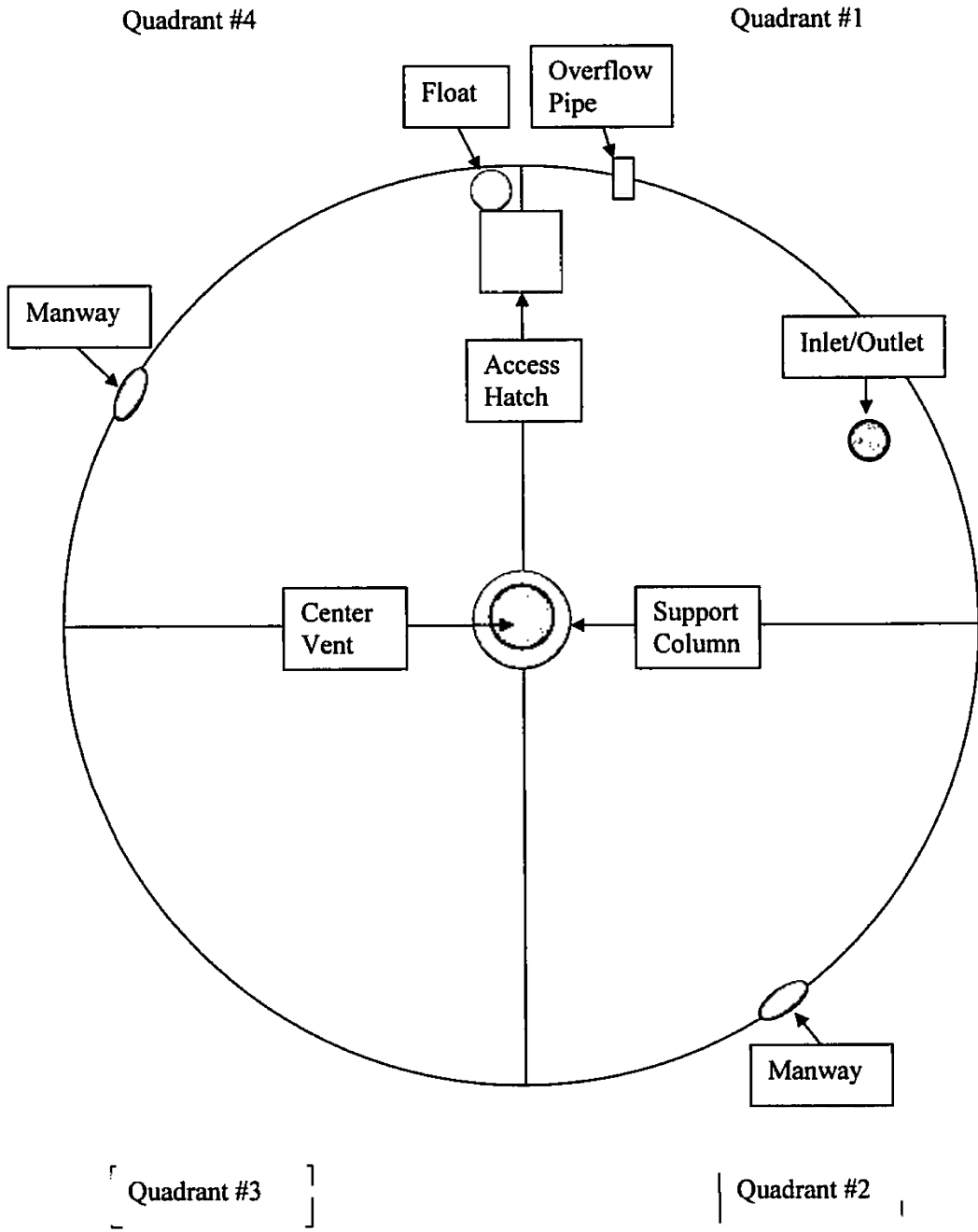
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The support column was found secure and in good condition with minor blistering and heavy staining noted.



# Tank Layout

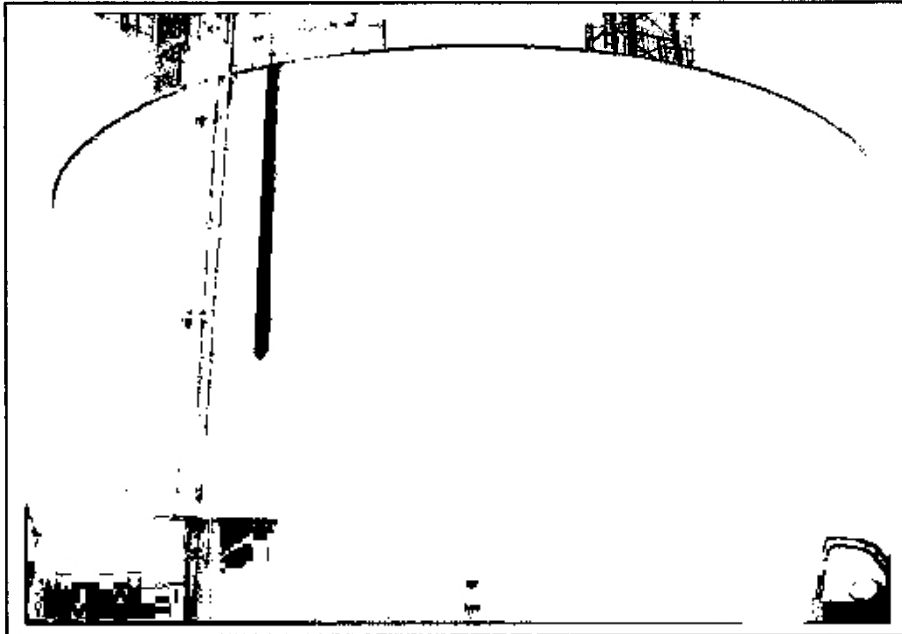




---

---

**Inspection Report for  
Great Basin Water Company  
Pahrump, NV**



**750KG Steel On-Grade  
Low Zone Tank**

**Date Completed: August 2, 2018**

**Commercial Dive Team:**

**Diver –Nico LeBlanc  
Dive Controller –Josh McDonough  
Tender –Dakota Butts**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth, averaging 1/16 inch (iron & manganese), was removed from the 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 base of the tank was found in good condition.
3. The wall was found in good condition with minor de-lamination, moderate chalking and 0.01% uniform surface corrosion noted.
4. The overflow was found in good condition with minor chalking noted.
5. The manways were found secure and in good condition with minor chalking noted.
6. The water level indicator was found in good condition.
7. The ladder was found secure, OSHA approved and in good condition with minor chalking noted.
8. The roof was found in good condition with minor to moderate de-lamination and 0.01% uniform surface corrosion noted.
9. The hatch was found locked with a gasket in place and in good condition with minor chalking and 0.03% uniform surface corrosion noted.
10. The vent was found in good condition with minor de-lamination, chalking and 0.1% uniform surface corrosion noted.

### **Interior Inspection**

1. The interior roof was found in good condition with minor de-lamination, staining, 0.01% uniform surface corrosion and rust noduling noted.
2. The ladder was found secure and in good condition with minor de-lamination, blistering and moderate staining noted.
3. The overflow was found in good condition with minor to moderate de-lamination and 0.03% uniform surface corrosion noted.
4. The interior wall was found in good condition with minor staining, 0.01% rust noduling and 1% uniform surface corrosion noted.
5. The floor was found in good condition with minor blistering, staining, de-lamination and 0.01% rust noduling noted.
6. The manways were found in good condition with minor de-lamination, blistering, minor to moderate staining and 0.01% rust noduling noted.
7. The two common inlet/outlets were found in good condition with minor de-lamination, heavy staining and 0.01% rust noduling noted.
8. The support column was found secure and in good condition with minor de-lamination, moderate staining, moderate to heavy blistering and 0.03% rust noduling noted.

## **Recommendations:**

1. Schedule time for epoxy repairs to the problem areas in the tank. (Approximately 1/2 day)
2. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **Key**

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

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


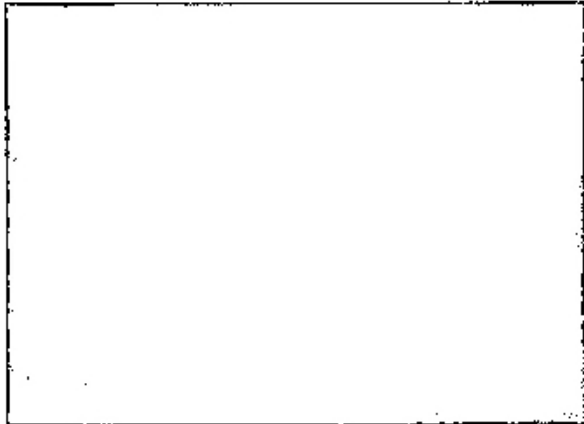


**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**



**Inland Potable Services, Inc.**  
**Exterior Inspection Report**



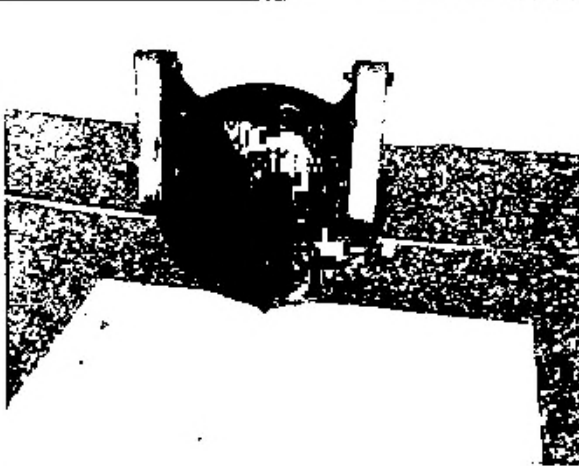
<b>Foundation Condition</b>	
<p>Foundation Exposed? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Anchor Bolts Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Corrosion on Anchor Bolts Present? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Anchor Bolts Loose? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Cracking Noted In Foundation? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Spalling Noted? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Summary: The base of the tank was found in good condition.</p>	
<b>Wall Panel Condition</b>	
<p>Coating Condition: Good</p> <p>Seams/Welds Condition: Good</p> <p>Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p> <p>Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p> <p>Dents Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Holes Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Signs Of Leaking? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Summary: The wall was found in good condition with minor de-lamination, moderate chalking and 0.01% uniform surface corrosion noted.</p>	
	

**Overflow Structure Condition**

Coating Condition: Good  
Seams/Welds Condition: Good  
Stand Off Supports Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Directly Connected To Sewer or Drain? Y  N  N/A

End Cap Present? Y  N   
Hinge and Cap Condition: Good  
#24 mesh Screen Present? Y  N   
Condition: Good

Summary: The overflow was found in good condition with minor chalking noted.

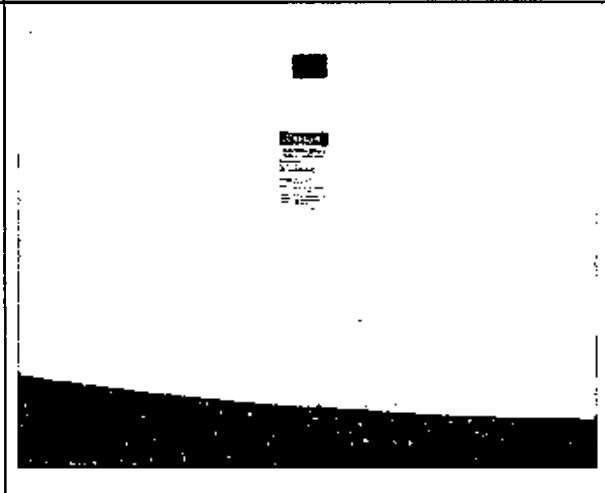
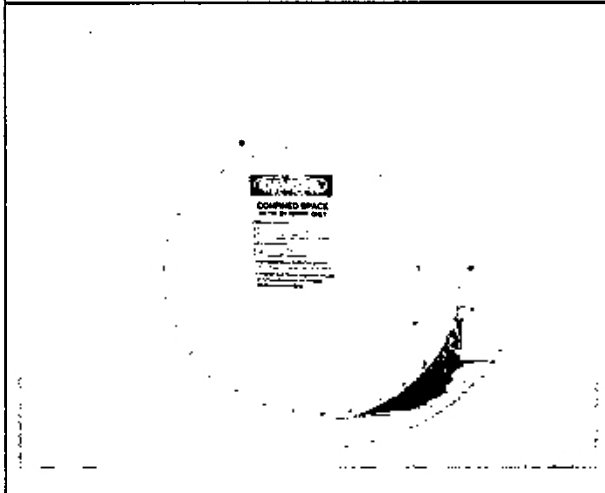


**Manway Condition**

Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manways were found secure and in good condition with minor chalking noted.



**Water Level Indicator Condition**

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Corrosion Present? Y  N   
 Marker Board Condition: Good  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

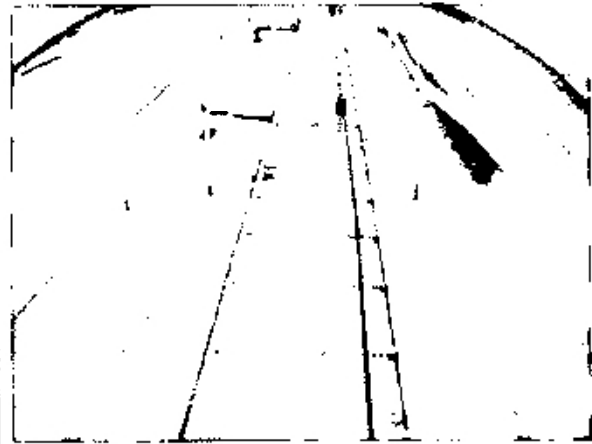
Summary: The water level indicator was found in good condition.





**Access Ladder Condition**

Ladder Type: Steel welded  
 Is Ladder and Safety Climb OSHA Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N



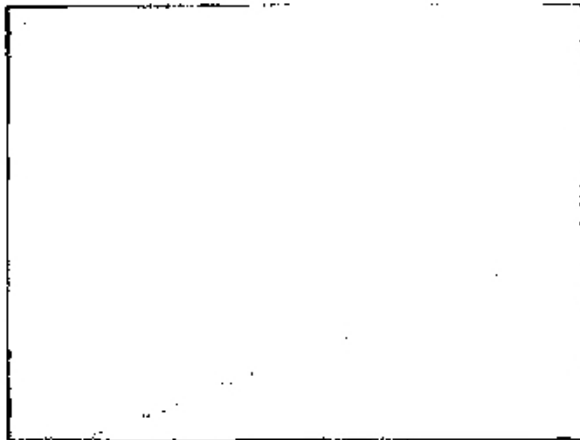
Summary: The ladder was found secure, OSHA approved and in good condition with minor chalking noted.

**Roof Condition**

Roof Type: Flat  
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 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 minor to moderate de-lamination and 0.01% uniform surface corrosion noted.

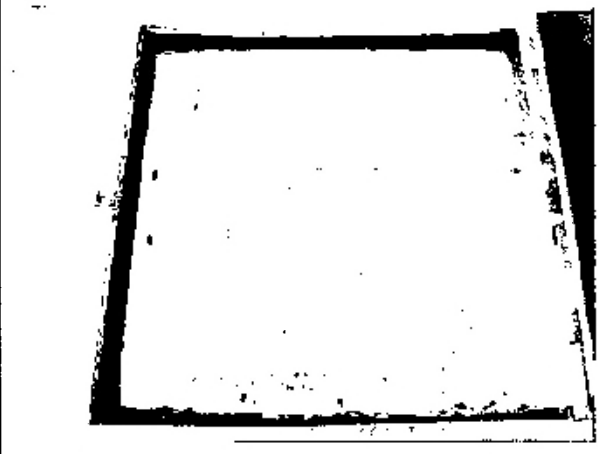
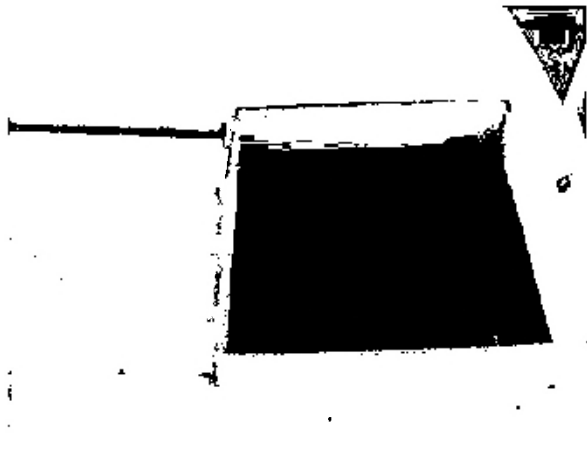


**Access Hatch Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 2 foot square  
 Riser Height: 4 inches Lid Height: 2 inches  
 Hatch Locked? Y  N

Hinge Condition: Good  
 Gasket Present? Y  N   
 Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with a gasket in place and in good condition with minor chalking and 0.03% uniform surface corrosion noted.



**Vent Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 #24 Mesh Screen in Place? Y  N   
 Condition: Good

Height of screen from roof: 1 foot  
 All Openings Sealed? Y  N   
 Cap Condition: Good

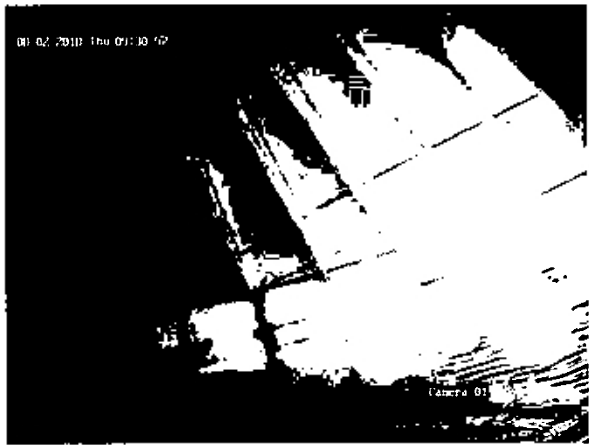
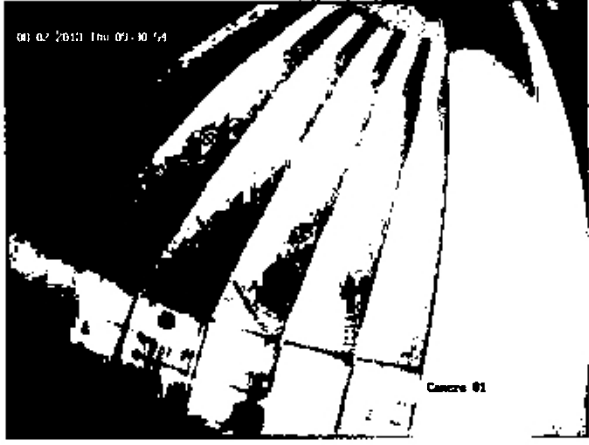

Summary: The vent was found in good condition with minor de-lamination, chalking and 0.1% uniform surface corrosion noted.





**Inland Potable Services, Inc.**  
**Interior Inspection Report**



<b>Roof Condition</b>	
<p>Coating Condition: Good            Welds/seam Condition: Good            Corrosion Present On Panels? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Metal De-alloying Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	<p>De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>             Summary: The interior roof was found in good condition with minor de-lamination, staining, 0.01% uniform surface corrosion and rust noduling noted.</p>
	
<b>Ladder Condition</b>	
<p>Ladder Location: 12 o'clock            Coating Condition: Good            Weld/Seam Condition: Good            Supports Condition: Good            Corrosion Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p> <p>Summary: The ladder was found secure and in good condition with minor de-lamination, blistering and moderate staining noted.</p>	

### Overflow Condition

Overflow Location: 6:30 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

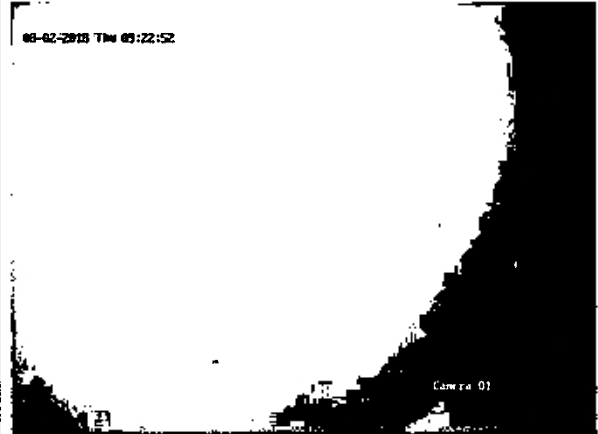
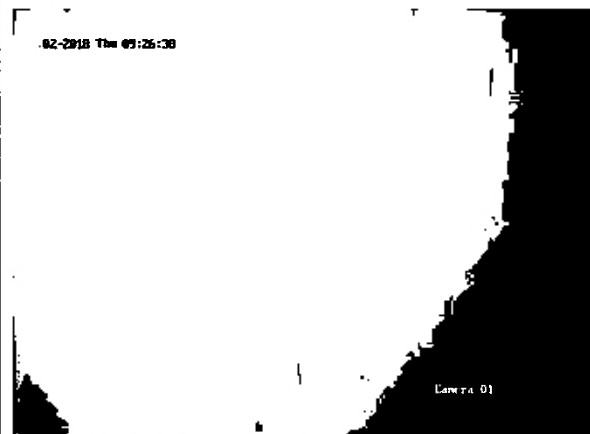
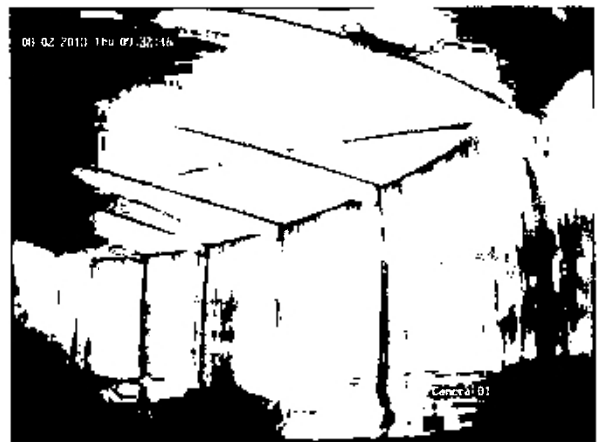
Summary: The overflow was found in good condition with minor to moderate de-lamination and 0.03% uniform surface corrosion noted.



### Wall Panel Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good condition with minor staining, 0.01% rust noduling and 1% uniform surface corrosion noted.

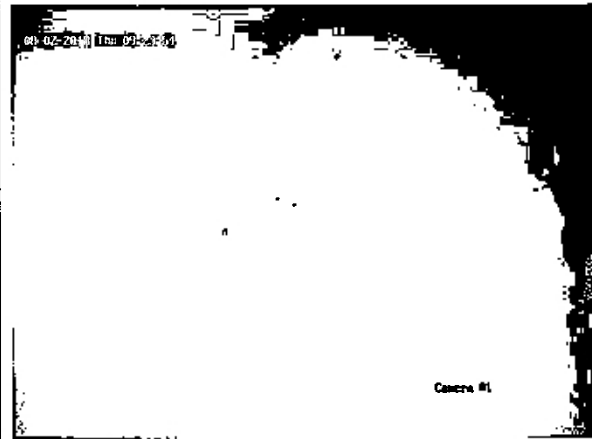
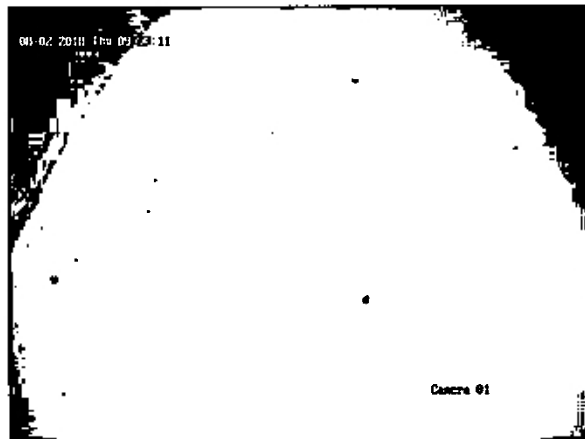
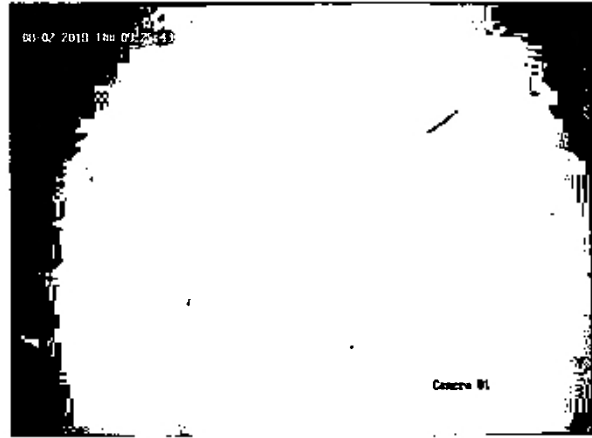
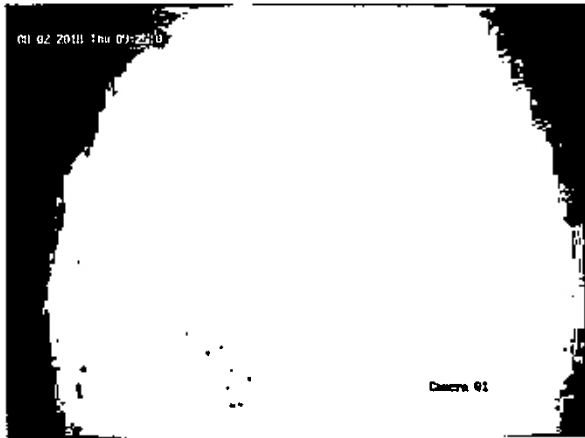


**Floor Condition**

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Sediment Depth: 1/16 inch

Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in good condition with minor blistering, staining, de-lamination and 0.01% rust noduling noted.

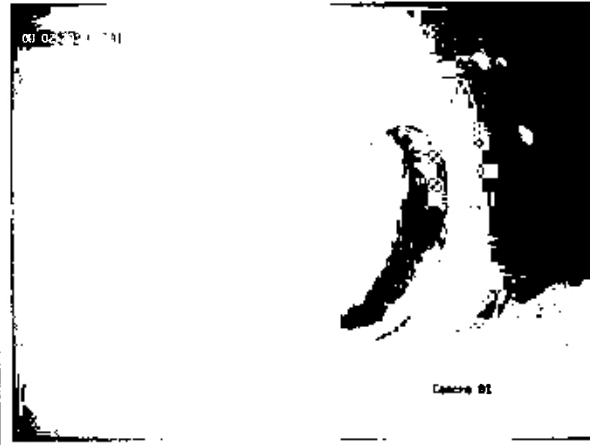
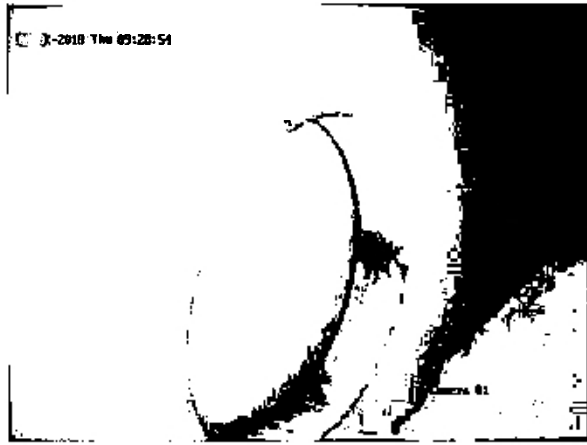
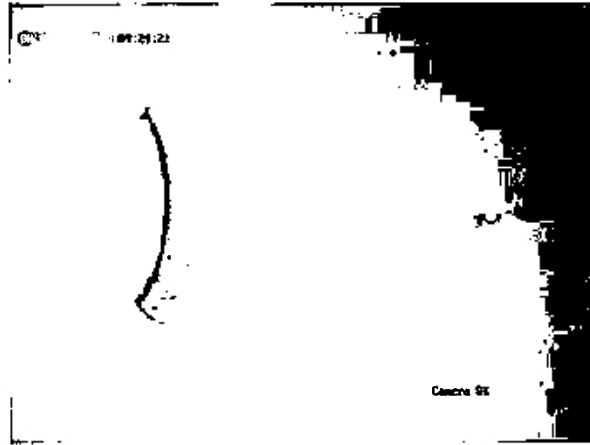


### Manway Condition

Manway Location(s): 6 o'clock & 11:45 o'clock  
Coating Condition: Both Good  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manways were found in good condition with minor de-lamination, blistering, minor to moderate staining and 0.01% rust noduling noted.

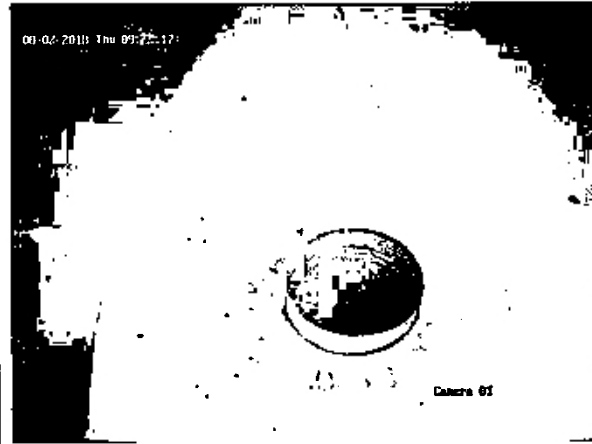
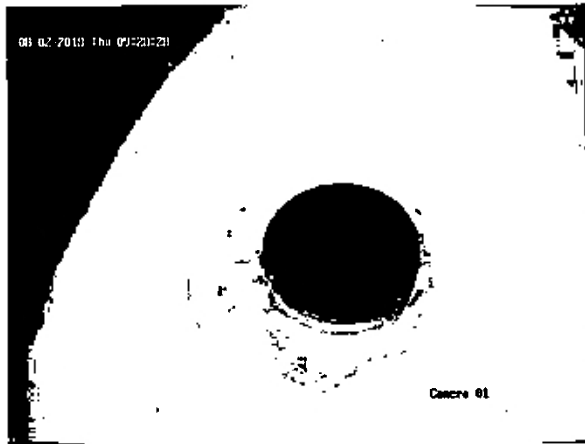


### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N   
Locations: 2 o'clock & 11:30 o'clock  
If Separate:  
Outlet Location: N/A  
Inlet Location: N/A  
Coating Condition: Both Good  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N

Oxidation Present? Y  N   
De-lamination Present? Y  N

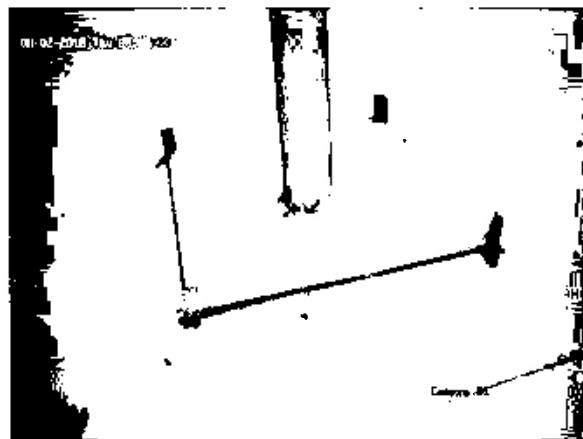
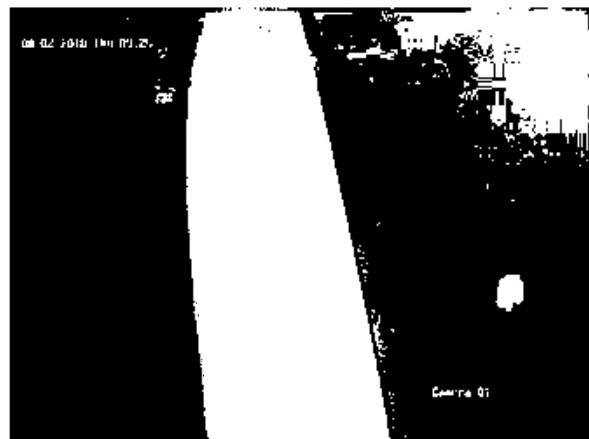
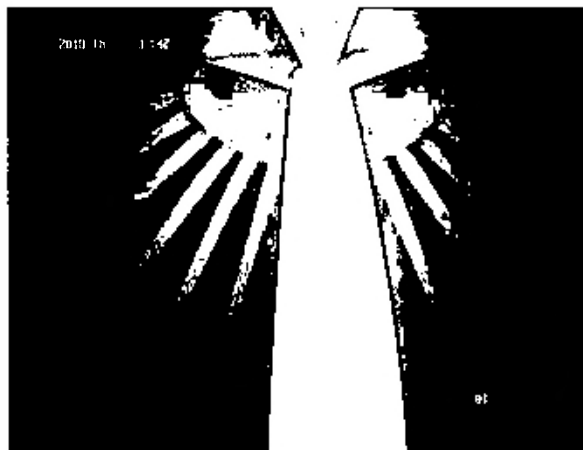
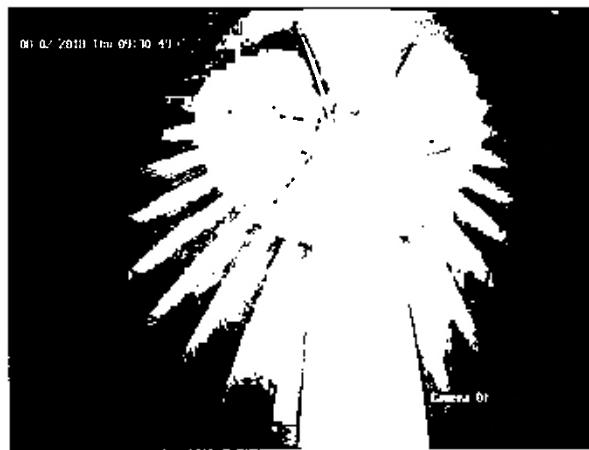
Summary: The two common inlet/outlets were found in good condition with minor de-lamination, heavy staining and 0.01% rust noduling noted.



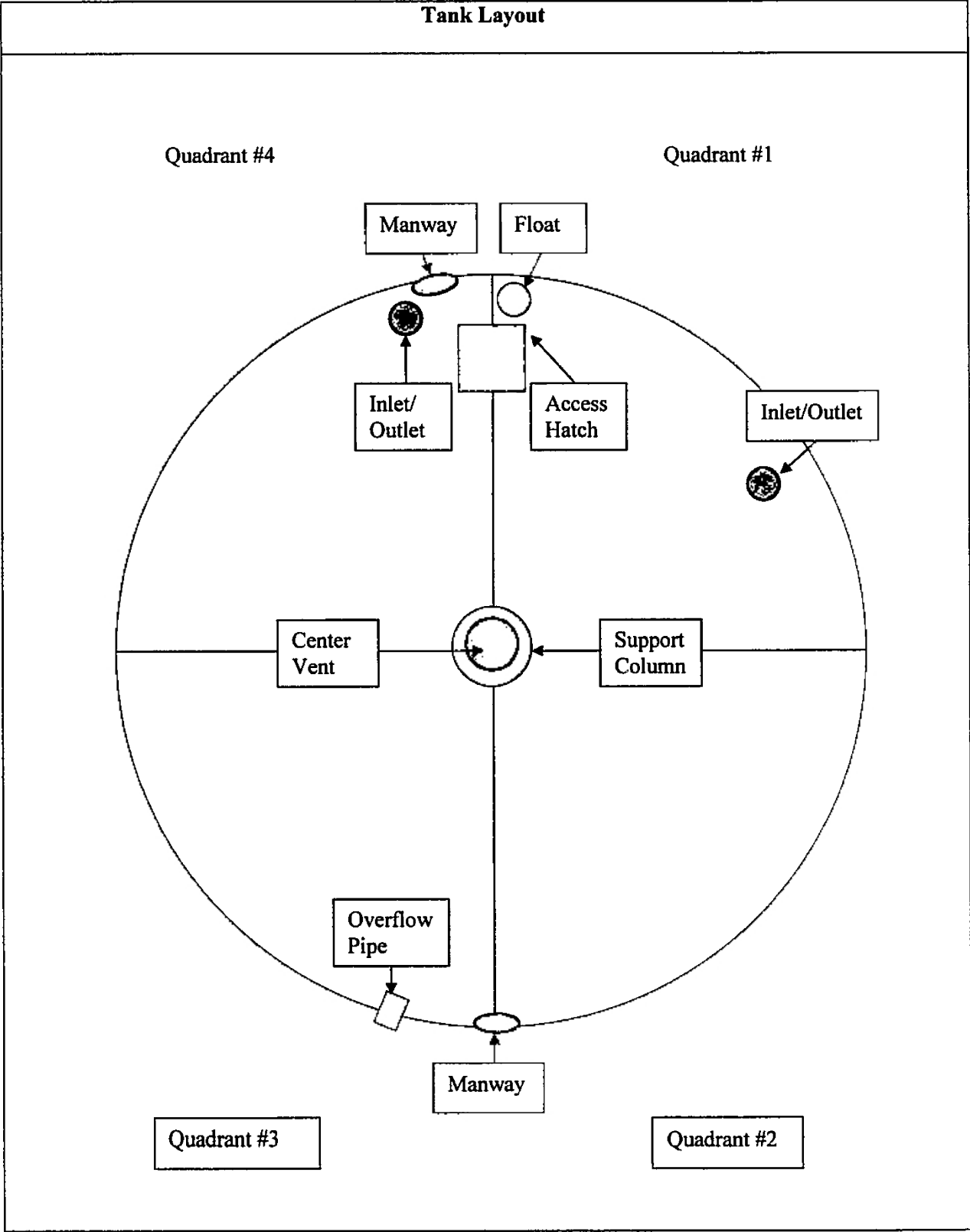
### Support Column Condition

Number Of Columns: 1  
Coating Condition: Fair  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The support column was found secure and in good condition with minor de-lamination, moderate staining, moderate to heavy blistering and 0.03% rust noduling noted.





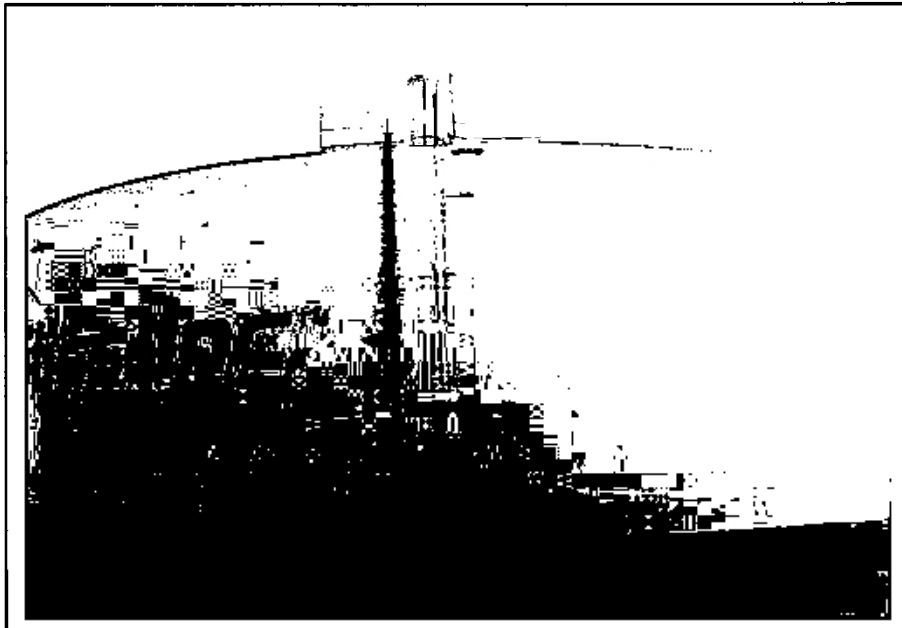




---

---

**Inspection Report for  
Great Basin Water Company  
Pahrump, NV**



**1.2MG Steel On-Grade  
Mountain Falls Tank**

**Date Completed: August 3, 2018**

**Commercial Dive Team:**

**Diver –Dakota Butts  
Dive Controller –Nico LeBlanc  
Tender –Josh McDonough**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depths, ranging from 1/16 inch to 1 inch (iron & manganese), were removed from the 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 foundation was found in good condition with minor hairline cracking noted.
3. The wall was found in excellent to good condition with sags & runs in the coating noted.
4. The overflow was found in excellent condition.
5. The manways were found secure and in excellent to good condition with 0.01% uniform surface corrosion noted.
6. The water level indicator was found in good condition.
7. The ladder was found secure, OSHA approved and in excellent to good condition with minor staining noted.
8. The roof was found in excellent condition.
9. The hatch was found locked with no gasket present and in good condition with minor de-lamination noted.
10. The vent was found in good condition with minor staining noted.

### **Interior Inspection**

1. The interior roof was found in excellent condition.
2. The ladder was found secure and in good condition with minor de-lamination and staining noted.
3. The overflow was found in good condition with minor staining and 0.01% concentrated cell corrosion noted.
4. The interior wall was found in good condition with moderate to heavy staining noted.
5. The floor was found in good condition with minor blistering, staining and 0.01% rust noduling noted.
6. The manways were found in excellent condition.
7. The common inlet/outlet was found in good condition with minor de-lamination and moderate staining noted.
8. The support column was found secure and in good condition with 0.01% rust noduling noted on the base.

## **Recommendations:**

1. Schedule time for epoxy repairs to the floor. (Approximately 1/2 day)
2. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **Key**

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

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


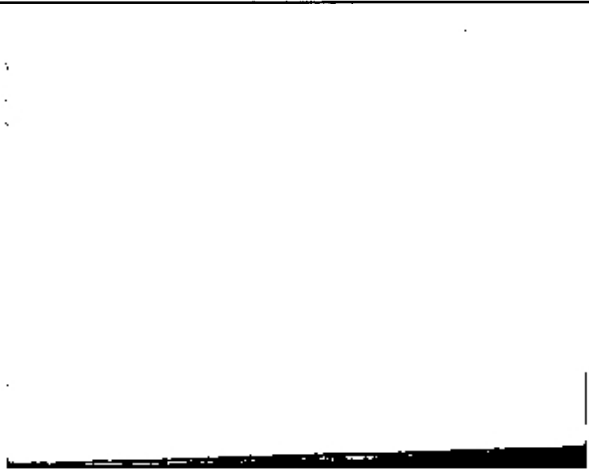
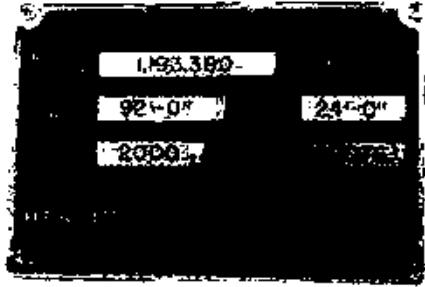
**Fair – Minor problems, repairs needed**

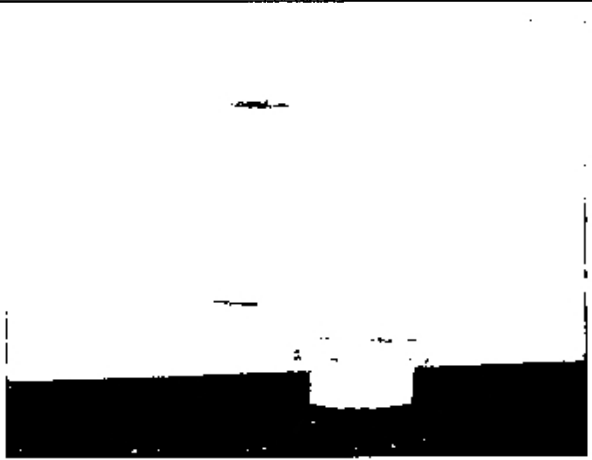

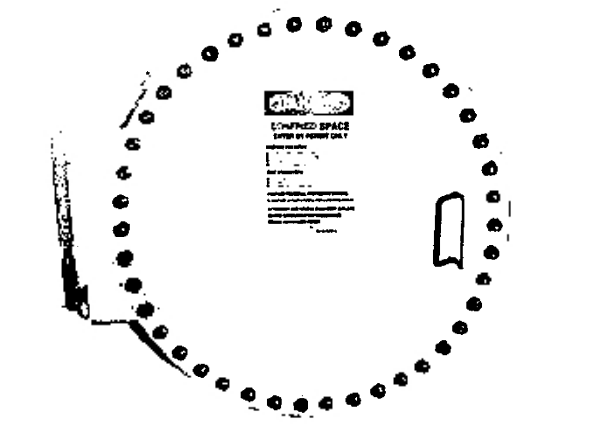
**Poor – Major problems, fix now**



**Inland Potable Services, Inc.**  
**Exterior Inspection Report**



<b>Foundation Condition</b>	
<p>Foundation Exposed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Anchor Bolts Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Corrosion on Anchor Bolts Present? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/>            Anchor Bolts Loose? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/>             Cracking Noted In Foundation? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>            Spalling Noted? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> N/A <input type="checkbox"/>             Summary: The foundation was found in good condition with minor hairline cracking noted.</p>	
<b>Wall Panel Condition</b>	
<p>Coating Condition: Excellent/Good            Seams/Welds Condition: Excellent            Corrosion Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Dents Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	<p>Holes Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Signs Of Leaking? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>             Summary: The wall was found in excellent to good condition with sags &amp; runs in the coating noted.</p>
	

<b>Overflow Structure Condition</b>	
<p>           Coating Condition: Excellent            Seams/Welds Condition: Excellent            Stand Off Supports Condition: Excellent            Corrosion Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Directly Connected To Sewer or Drain? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>            End Cap Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Hinge and Cap Condition: N/A            #24 mesh Screen Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>                Condition: N/A             Summary: The overflow was found in excellent condition.         </p>	
<b>Manway Condition</b>	
<p>           Coating Condition: Excellent/Good            Weld/Seam Condition: Excellent            Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> </p>	<p>Summary: The manways were found secure and in excellent to good condition with 0.01% uniform surface corrosion noted.</p>
	

### Water Level Indicator Condition

Marker Condition: Good

Attached & Accurate? Y  N

Corrosion Present? Y  N

Marker Board Condition: Good/Fair

Is the level reading visible? Y  N

Pulley Condition: Good

Attached Properly? Y  N

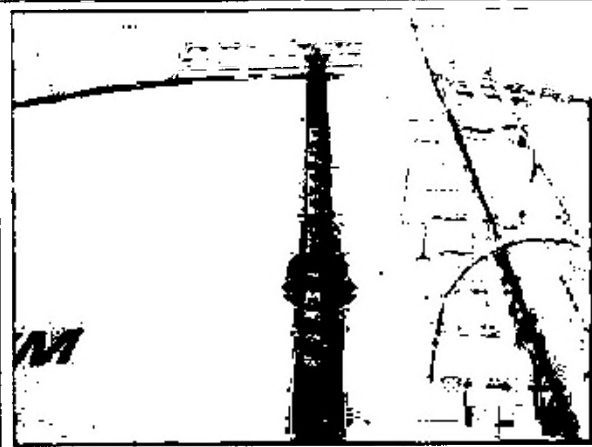
Cable Condition: Good

Attached Properly? Y  N

Hardware Condition: Excellent

Corrosion Present? Y  N

Summary: The water level indicator was found in good condition.



### Access Ladder Condition

Ladder Type: Steel welded

Is Ladder and Safety Climb OSHA Approved? Y  N

Is Vandal Guard Present? Y  N

Locked? Y  N  N/A

Safety Climb Type: Cage

Safety Climb Condition: Good

Is Top Of Tank Easily Accessible? Y  N

Coating Condition: Good

Seams/Welds Condition: Excellent

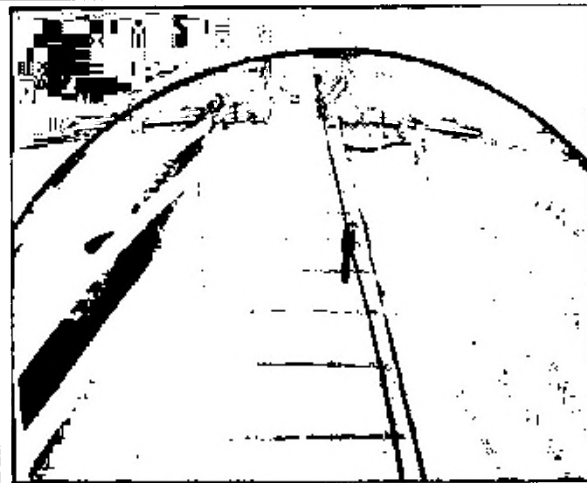
Stand Off Supports Condition: Excellent

Corrosion Present? Y  N

Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in excellent to good condition with minor staining noted.



### Roof Condition

Roof Type: Flat

Coating Condition: Excellent

Seams/Welds Condition: Excellent

Corrosion Present? Y  N

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

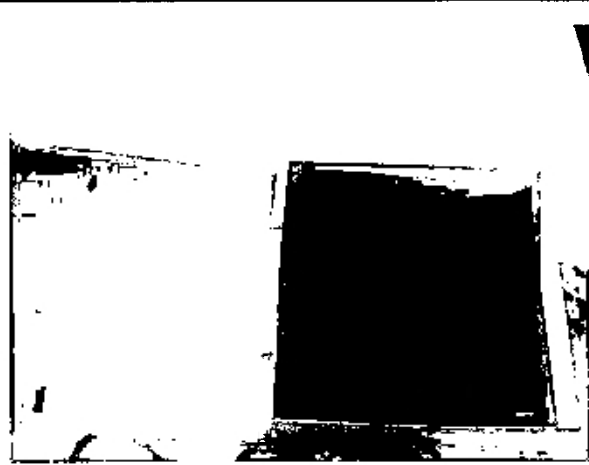
Missing Plates? Y  N  N/A

Summary: The roof was found in excellent condition.



**Access Hatch Condition**

Coating Condition: Good  
 Seams/Welds Condition: Excellent  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 2½ foot square  
 Riser Height: 4 inches Lid Height: 2 inches  
 Hatch Locked? Y  N   
 Hinge Condition: Good  
 Gasket Present? Y  N   
 Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N



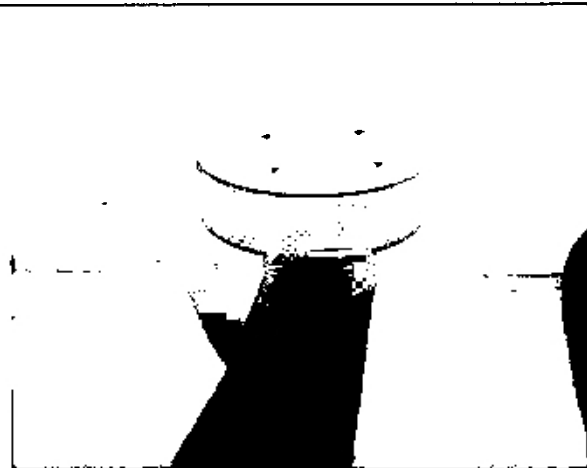
Summary: The hatch was found locked with no gasket present and in good condition with minor de-lamination noted.

**Vent Condition**

Coating Condition: Good  
 Seams/Welds Condition: Excellent  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 #24 Mesh Screen in Place? Y  N   
 Condition: Excellent

Height of screen from roof: 1 foot  
 All Openings Sealed? Y  N   
 Cap Condition: Good




Summary: The vent was found in good condition with minor staining noted.





**Inland Potable Services, Inc.**  
**Interior Inspection Report**



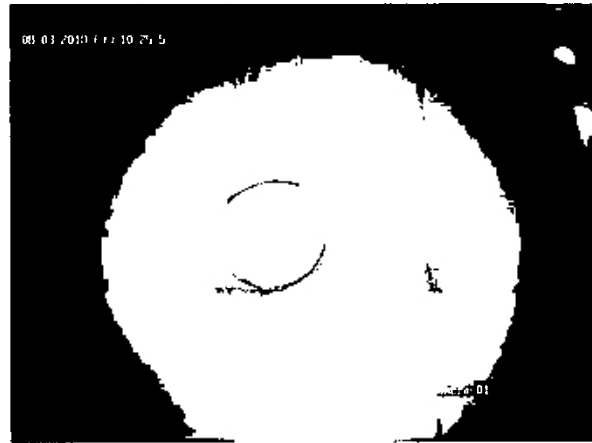
<b>Roof Condition</b>	
<p>Coating Condition: Excellent            Welds/seam Condition: Excellent            Corrosion Present On Panels? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Metal De-alloying Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	<p>De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>             Summary: The interior roof was found in excellent condition.</p>
	
<b>Ladder Condition</b>	
<p>Ladder Location: 12 o'clock            Coating Condition: Good            Weld/Seam Condition: Excellent            Supports Condition: Excellent            Corrosion Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p> <p>Summary: The ladder was found secure and in good condition with minor de-lamination and staining noted.</p>	



### Overflow Condition

Overflow Location: 2:30 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Excellent  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The overflow was found in good condition with minor staining and 0.01% concentrated cell corrosion noted.

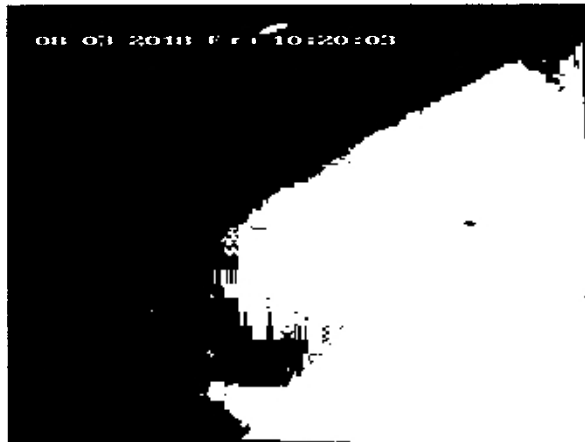


### Wall Panel Condition

Coating Condition: Good  
Welds/seam Condition: Excellent  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good condition with moderate to heavy staining noted.

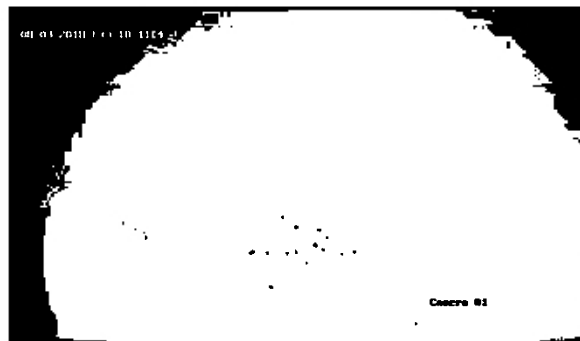
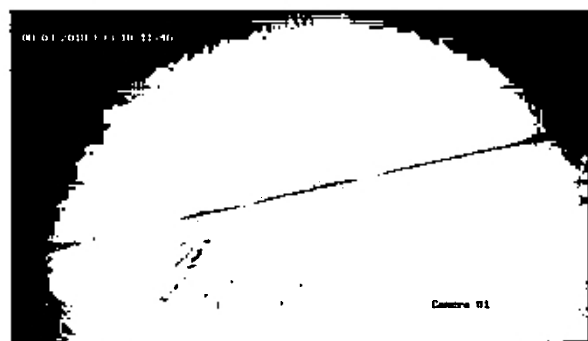
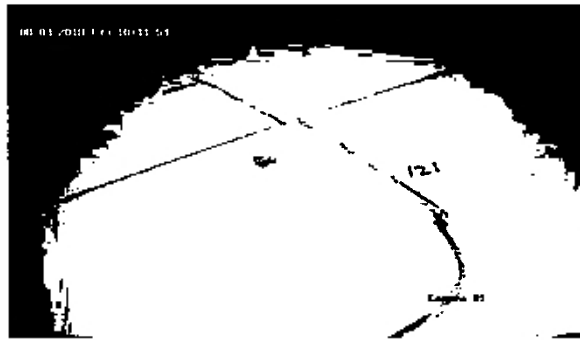
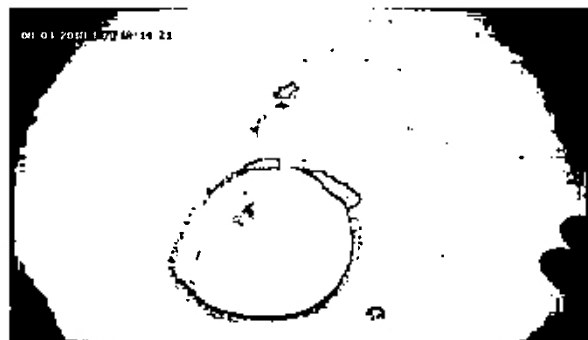


### Floor Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Sediment Depth: 1/16 inch - 1 inch  
 Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in good condition with minor blistering, staining and 0.01% rust noduling noted.

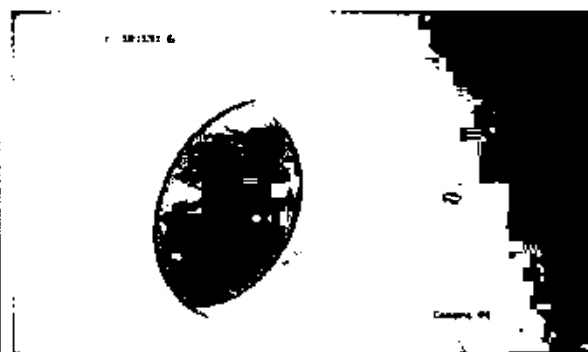


### Manway Condition

Manway Location(s): 1:30 o'clock & 7 o'clock  
 Coating Condition: Both Excellent  
 Weld/Seam Condition: Both Excellent  
 Corrosion Present? Y  N

Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The manways were found in excellent condition.



### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N  Location: 12:15 o'clock  
If Separate:

Outlet Location: N/A

Inlet Location: N/A

Coating Condition: Good

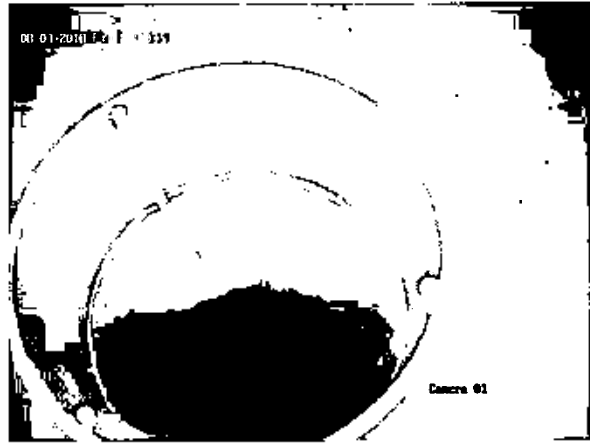
Weld/Seam Condition: Good

Corrosion Present? Y  N

Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The common inlet/outlet was found in good condition with minor de-lamination and moderate staining noted.



### Support Column Condition

Number Of Columns: 1

Coating Condition: Good

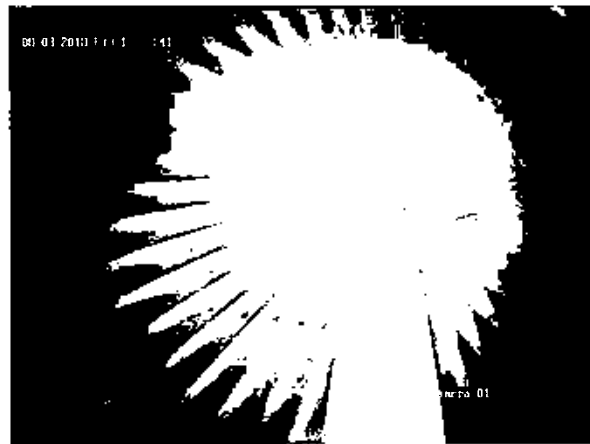
Welds/seam Condition: Good

Corrosion Present? Y  N

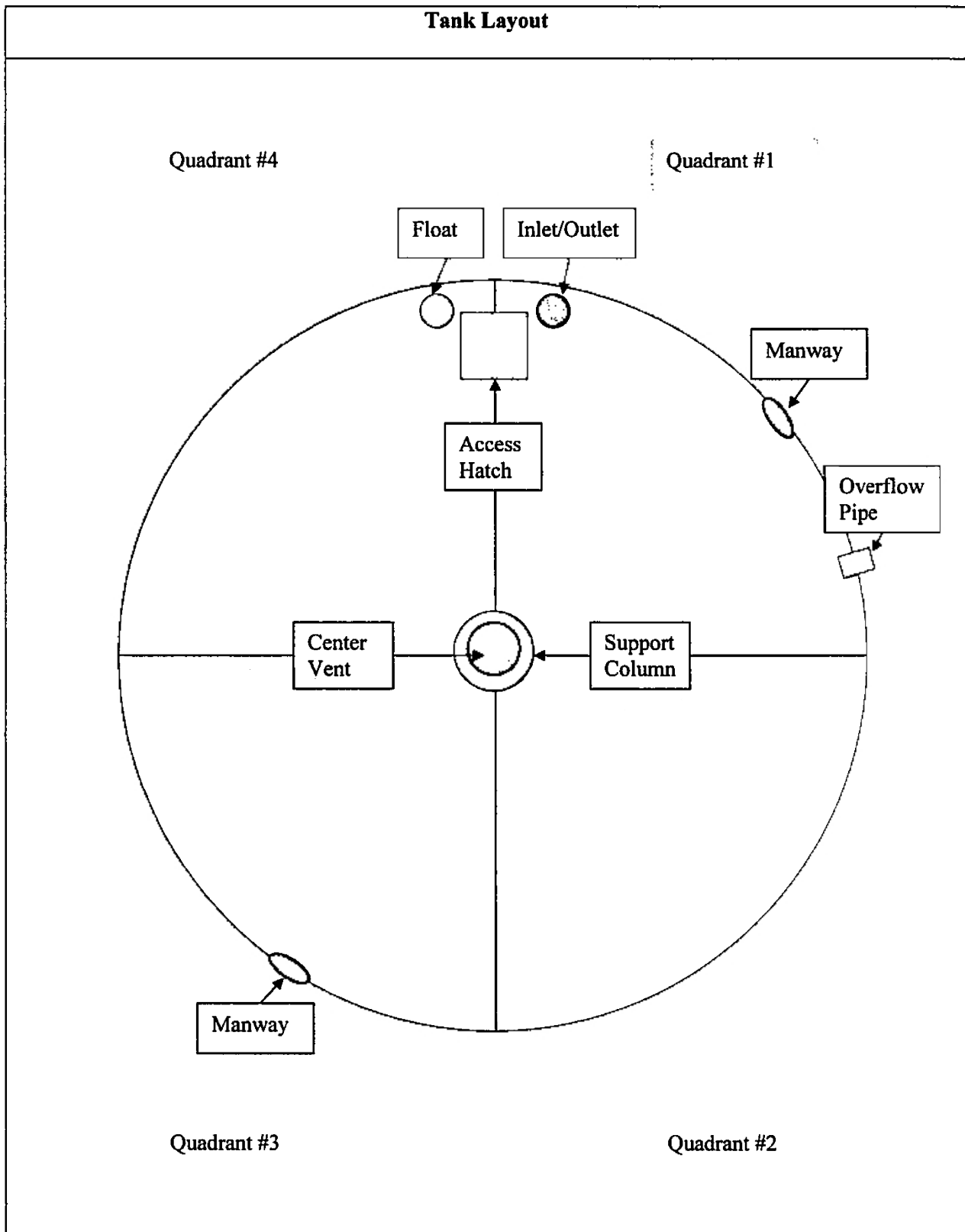
Oxidation Present? Y  N

De-lamination Present? Y  N

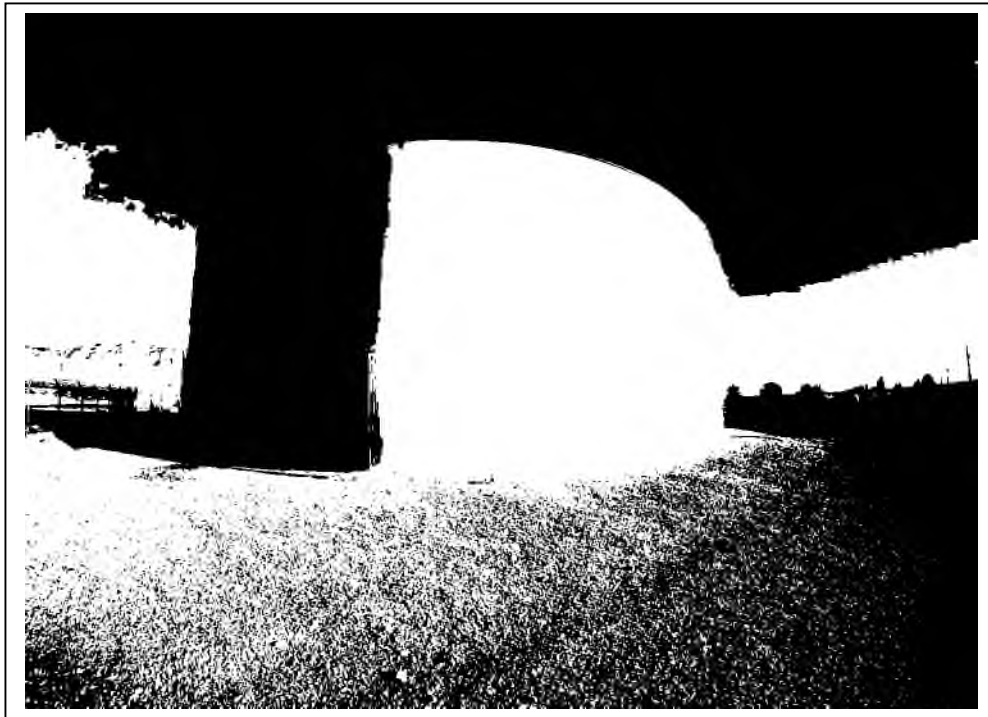
Summary: The support column was found secure and in good condition with 0.01% rust noduling noted on the base.



# Tank Layout



**Inspection Report for  
Great Basin Water Company  
Pahrump, NV**



**750KG Steel On-Grade  
Country View Estates GST Tank**

**Date Completed: January 15, 2021**

**Commercial Dive Team:**

**Diver – Nathan Monroe  
Dive Controller – Ceasar Hernandez  
Tender – Colin Lafever**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth, averaging 1 inch (sand & dirt), was removed from the 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 foundation was found in good condition with minor voids and hairline cracking noted.
3. The wall was found in good condition with minor de-lamination, staining and chalking noted.
4. The overflow was found in good condition with minor oxidation, chalking and 0.01% uniform surface corrosion noted.
5. The manways were found secure and in good condition with minor chalking and staining noted.
6. The water level indicator was found in good condition.
7. The ladder was found secure, OSHA approved and in good condition with minor chalking noted.
8. The roof was found in good condition with minor de-lamination and heavy chalking noted.
9. The hatch was found locked with a gasket in place and in good condition with minor oxidation, corrosive staining, moderate to heavy chalking and 0.01% uniform surface corrosion noted.
10. The vent was found in good condition with minor oxidation, corrosive staining, sags & runs in the coating, moderate to heavy chalking and 0.01% uniform surface corrosion noted.

### **Key**

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in good condition with minor sags & runs in the coating, oxidation and 0.01% intergranular corrosion noted.
2. The ladder was found secure and in good condition with minor de-lamination, micro blistering, sags & runs in the coating, heavy sediment staining, chalking and 0.01% uniform surface corrosion & rust noduling noted.
3. The overflow was found in good condition with minor oxidation and chalking noted.
4. The interior wall was found in good condition with minor de-lamination, sediment staining, sags & runs in the coating, heavy chalking and 1% uniform surface corrosion noted.
5. The floor was found in good condition with heavy chalking and sediment staining noted.
6. The manways were found in good condition with minor sags & runs in the coating, blistering and moderate chalking noted.
7. The common inlet/outlet was found in good condition with minor sags & runs in the coating, micro blistering and heavy sediment staining & chalking noted.
8. The float was found in good condition with 0.01% uniform surface corrosion noted.
9. The support column was found secure and in good condition with minor sags & runs in the coating, micro & macro blistering and moderate sediment staining and heavy chalking noted.

### **Recommendations:**

1. Install a #24 mesh screen on the exterior overflow.
2. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **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



### 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  N/A   
 Spalling Noted? Y  N  N/A

Summary: The foundation was found in good condition with minor voids and hairline cracking noted.

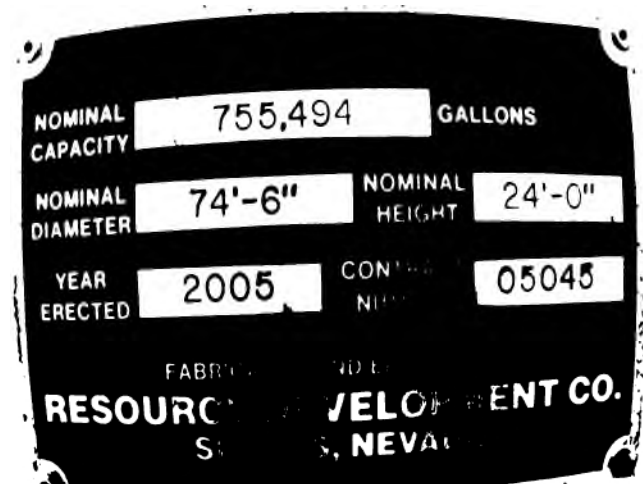


### Wall Panel Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N

Holes Present? Y  N   
 Signs Of Leaking? Y  N

Summary: The wall was found in good condition with minor de-lamination, staining and chalking noted.



NOMINAL CAPACITY **755,494** GALLONS

NOMINAL DIAMETER **74'-6"** NOMINAL HEIGHT **24'-0"**

YEAR ERECTED **2005** CONTROL NUMBER **05045**

FABRICATED AND DELIVERED BY  
**RESOURCE DEVELOPMENT CO.**  
 SALT LAKE CITY, NEVADA



### Overflow Structure Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: Good  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

Summary: The overflow was found in good condition with minor oxidation, chalking and 0.01% uniform surface corrosion noted.

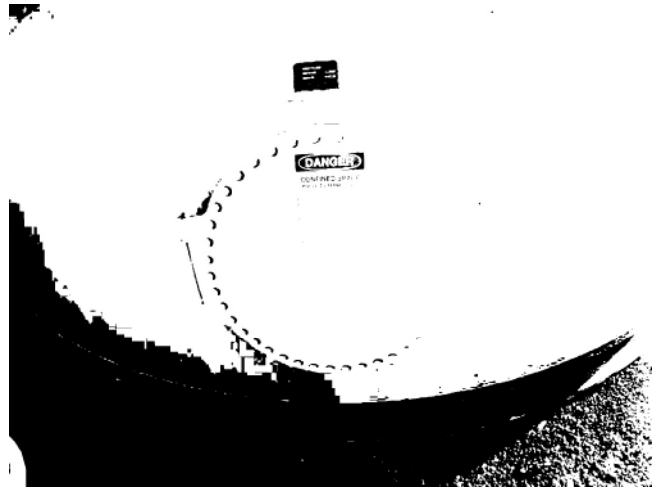
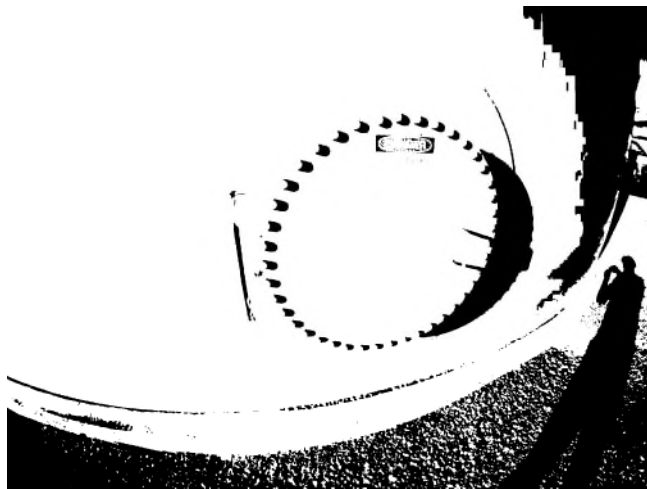


### Manway Condition

Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

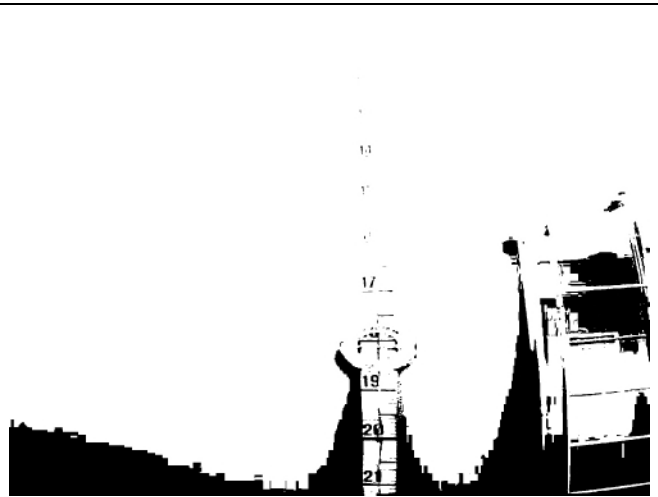
De-lamination Present? Y  N

Summary: The manways were found secure and in good condition with minor chalking and staining noted.



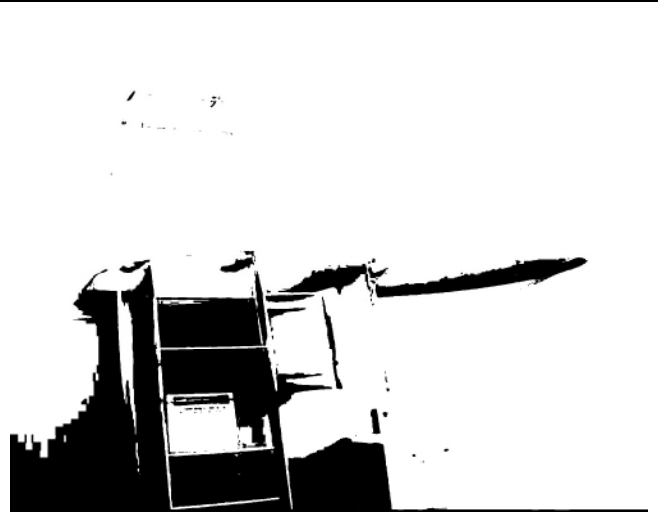
### Water Level Indicator Condition

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Marker Board Condition: Fair  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N   
  
 Summary: The water level indicator was found in good condition.



### Access Ladder Condition

Ladder Type: Steel welded  
 Is Ladder and Safety Climb **OSHA** Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
  
 Summary: The ladder was found secure, OSHA approved and in good condition with minor chalking noted.



### Roof Condition

Roof Type: Pitched  
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 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 minor de-lamination and heavy chalking noted.

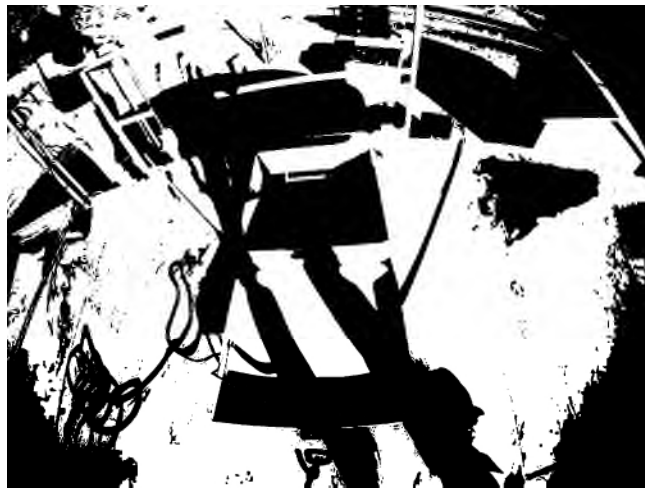


**Access Hatch Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 30 inch square  
 Riser Height: 8 inches Lid Height: 2½ inches  
 Hatch Locked? Y  N   
 Hinge Condition: Good

Gasket Present? Y  N   
 Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with a gasket in place and in good condition with minor oxidation, corrosive staining, moderate to heavy chalking and 0.01% uniform surface corrosion noted.

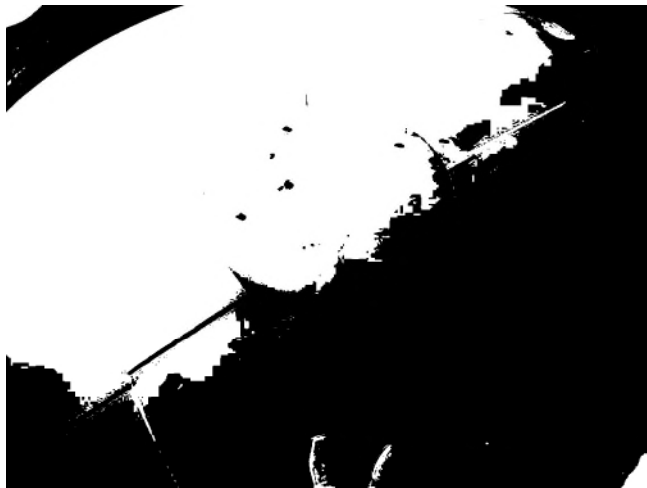


**Vent Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 #24 Mesh Screen in Place? Y  N   
 Condition: Good

All Openings Sealed? Y  N   
 Cap Condition: Good

Summary: The vent was found in good condition with minor oxidation, corrosive staining, sags & runs in the coating, moderate to heavy chalking and 0.01% uniform surface corrosion noted.





# Inland Potable Services, Inc.

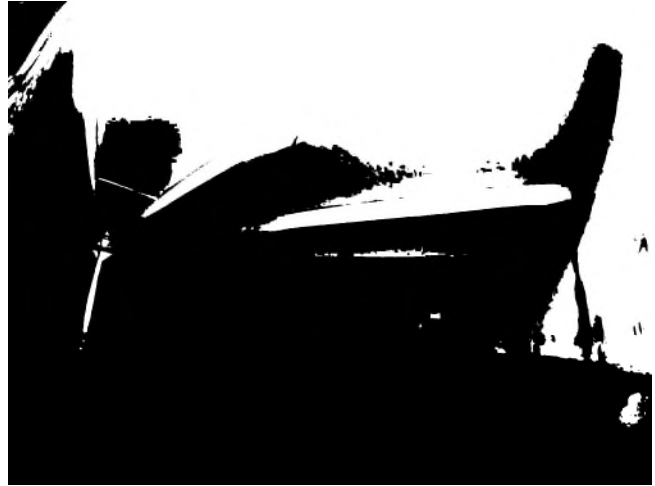
## Interior Inspection Report



### Roof Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present On Panels? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

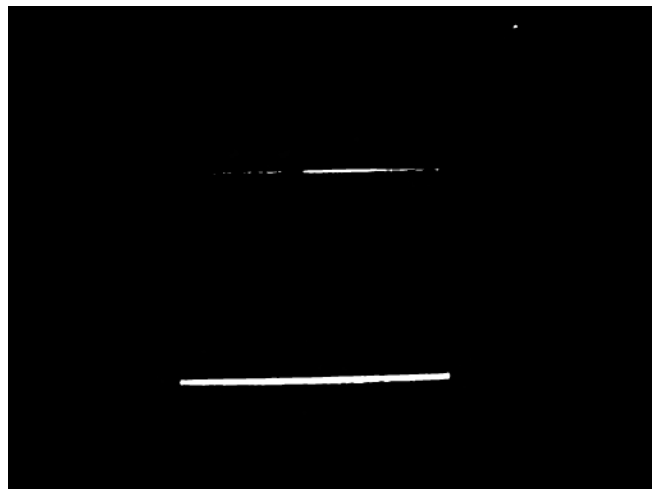
Summary: The interior roof was found in good condition with minor sags & runs in the coating, oxidation and 0.01% intergranular corrosion noted.



### Ladder Condition

Ladder Location: 12 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure and in good condition with minor de-lamination, micro blistering, sags & runs in the coating, heavy sediment staining, chalking and 0.01% uniform surface corrosion & rust noduling noted.



### Overflow Condition

Overflow Location: 10 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The overflow was found in good condition with minor oxidation and chalking noted.



### Wall Panel Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good condition with minor de-lamination, sediment staining, sags & runs in the coating, heavy chalking and 1% uniform surface corrosion noted.



### Floor Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in good condition with heavy chalking and sediment staining noted.

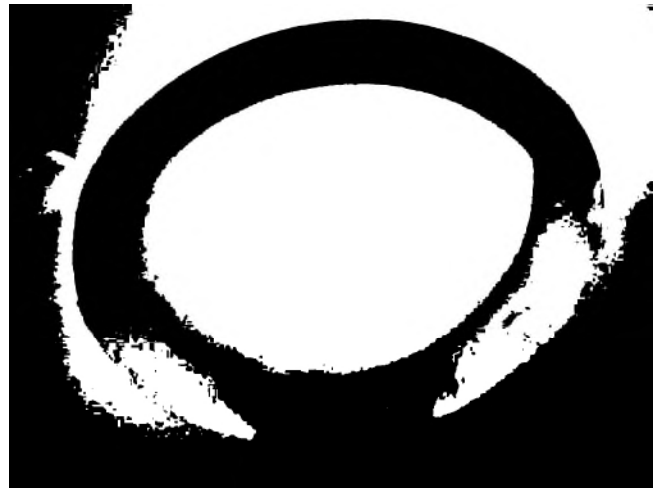


**Manway Condition**

Manway Location(s): 2:30 o'clock & 7 o'clock  
 Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N

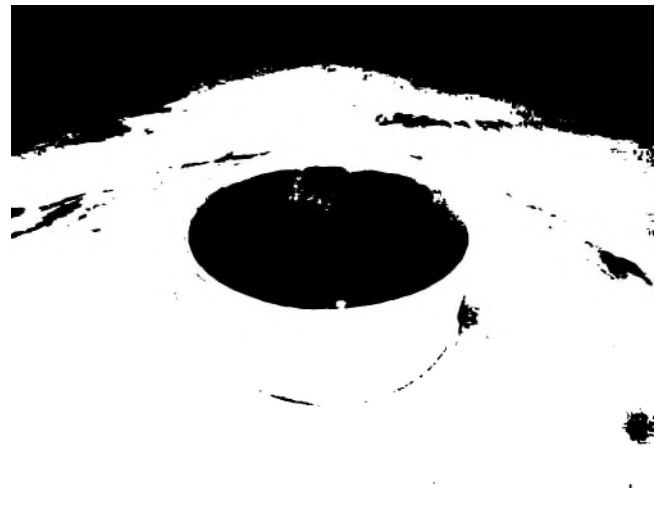
Summary: The manways were found in good condition with minor sags & runs in the coating, blistering and moderate chalking noted.



**Inlet and Outlet Condition**

Common Inlet/Outlet? Y  N  Location: 1 o'clock  
 If Separate:  
 Outlet Location: N/A  
 Inlet Location: N/A  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The common inlet/outlet was found in good condition with minor sags & runs in the coating, micro blistering and heavy sediment staining & chalking noted.



### Float Condition

Float Location: 11:55 o'clock

Guidelines Condition: Good

Attached Properly? Y  N

Cable Condition: Good

Attached Properly? Y  N

Hardware Condition: Good

Corrosion Present? Y  N

Float Condition: Good

Sealed? Y  N

Summary: The float was found in good condition with 0.01% uniform surface corrosion noted.



### Support Column Condition

Number Of Columns: 1

Coating Condition: Good

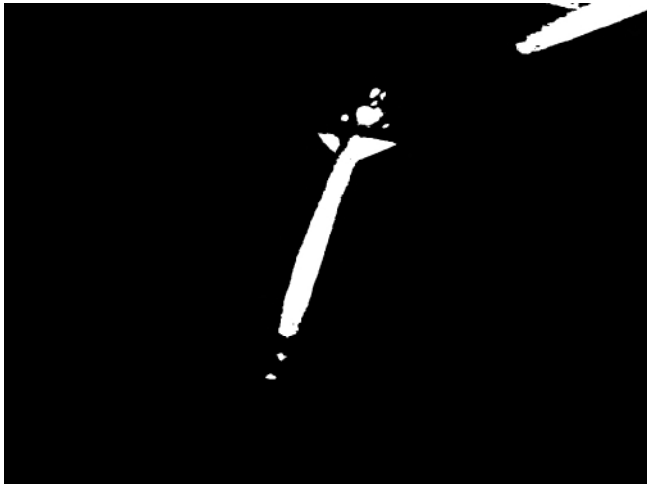
Welds/seam Condition: Good

Corrosion Present? Y  N

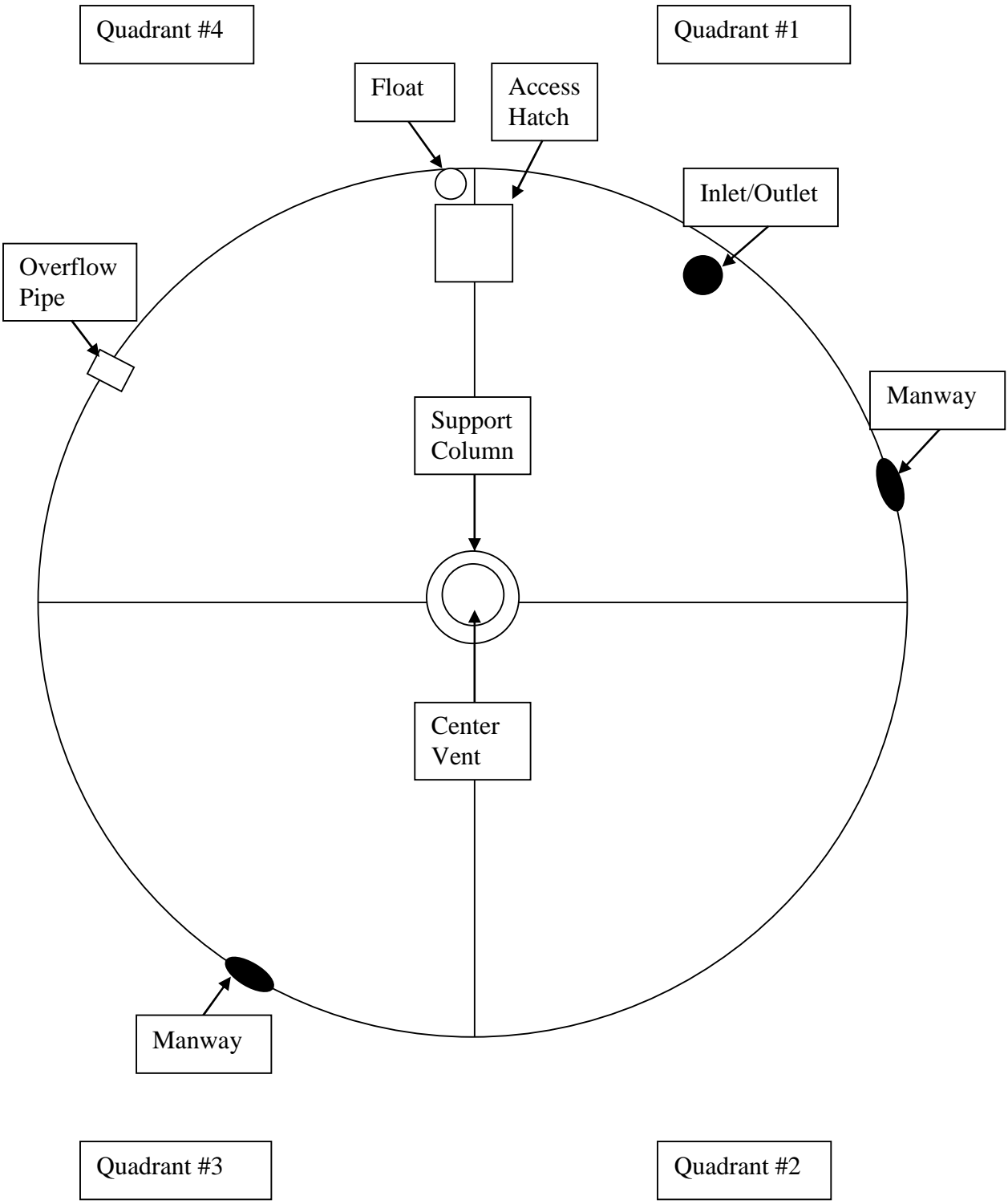
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The support column was found secure and in good condition with minor sags & runs in the coating, micro & macro blistering and moderate sediment staining and heavy chalking noted.



Tank Layout





**Inspection Report for  
Great Basin Water Company  
Pahrump, NV**



**1.6MG Steel On-Grade  
Mesquite GST Tank**

**Date Completed: January 15, 2021**

**Commercial Dive Team:**

**Diver – Nathan Monroe  
Dive Controller – Ceasar Hernandez  
Tender – Colin Lafever**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth, averaging 1 inch (sand & dirt), was removed from the 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 foundation was found in good condition with minor hairline cracking and voids noted.
3. The wall was found in good condition with minor chalking noted.
4. The overflow was found in good condition with minor oxidation noted.
5. The manways were found secure and in good condition with minor chalking noted.
6. The water level indicator was found in good condition.
7. The ladder was found secure, OSHA approved and in good condition with minor chalking noted.
8. The roof was found in good condition with minor staining and moderate cracking noted.
9. The hatch was found locked with a gasket in place and in good condition with minor corrosive staining, oxidation, heavy chalking and 0.01% uniform surface corrosion noted.
10. The vents were found in good condition with minor corrosive staining, moderate chalking and 0.01% surface corrosion noted.

### **Key**

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in good condition with minor sags & runs in the coating, micro blistering and 0.01% intergranular corrosion noted.
2. The ladder was found secure and in good condition with moderate sediment staining and 0.01% rust noduling noted.
3. The overflow was found in good condition with moderate sediment staining, sags & runs in the coating and heavy chalking noted.
4. The interior wall was found in good condition with minor sags & runs in the coating, moderate micro & macro blistering and heavy chalking noted.
5. The floor was found in good condition with minor sags & runs in the coating, micro & macro blistering and heavy chalking noted.
6. The manways were found in good condition with minor sags & runs in the coating and micro & macro blistering noted.
7. The inlet was found in good condition with minor de-lamination, micro & macro blistering, sags & runs in the coating, heavy chalking and 0.01% uniform surface corrosion noted.
8. The outlet was found in good condition with moderate sags & runs in the coating, sediment staining, micro & macro blistering, heavy chalking and 0.01% uniform surface corrosion noted.
9. The float was found in good condition.
10. The support column was found in good condition with minor micro & macro blistering, sags & runs in the coating and heavy chalking noted.

### **Recommendations:**

1. Install a #24 mesh screen on the exterior overflow.
2. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **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



### 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  N/A   
 Spalling Noted? Y  N  N/A

Summary: The foundation was found in good condition with minor hairline cracking and voids noted.

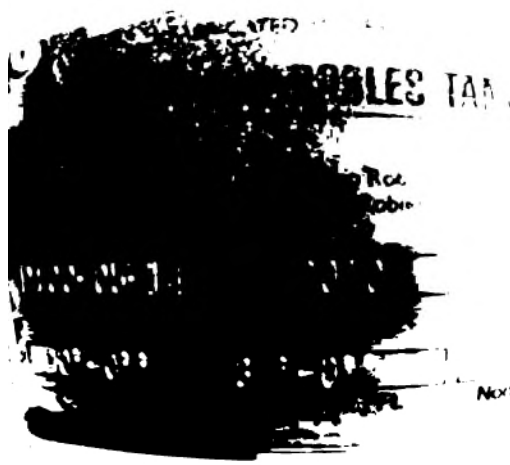
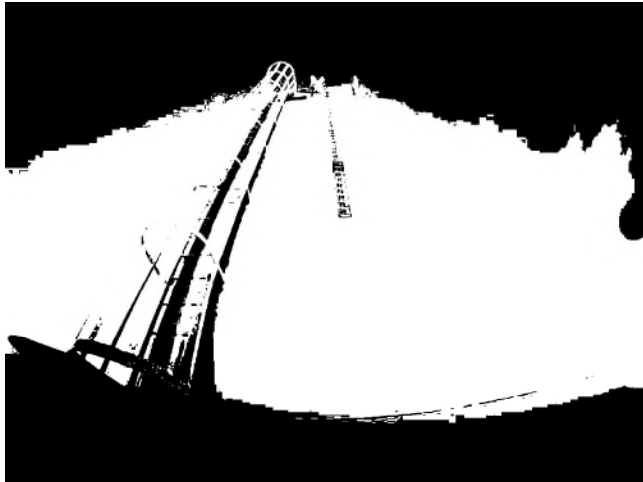


### Wall Panel Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N

Holes Present? Y  N   
 Signs Of Leaking? Y  N

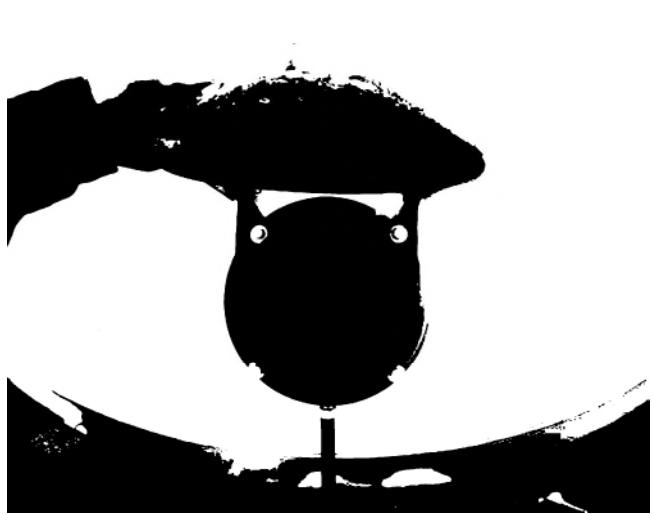
Summary: The wall was found in good condition with minor chalking noted.



### Overflow Structure Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: Good  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

Summary: The overflow was found in good condition with minor oxidation noted.



### Manway Condition

Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N

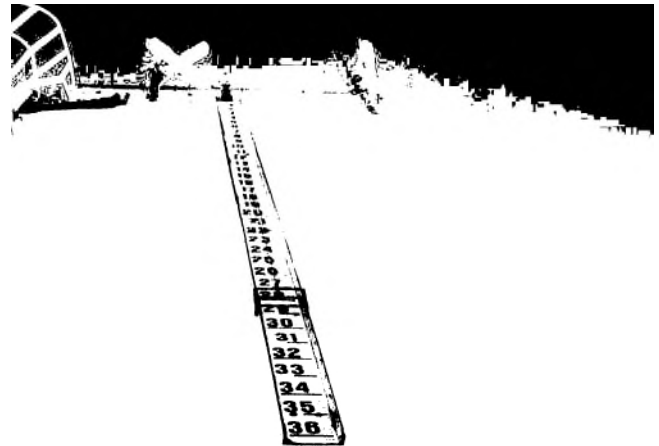
Summary: The manways were found secure and in good condition with minor chalking noted.



### Water Level Indicator Condition

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Marker Board Condition: Good  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

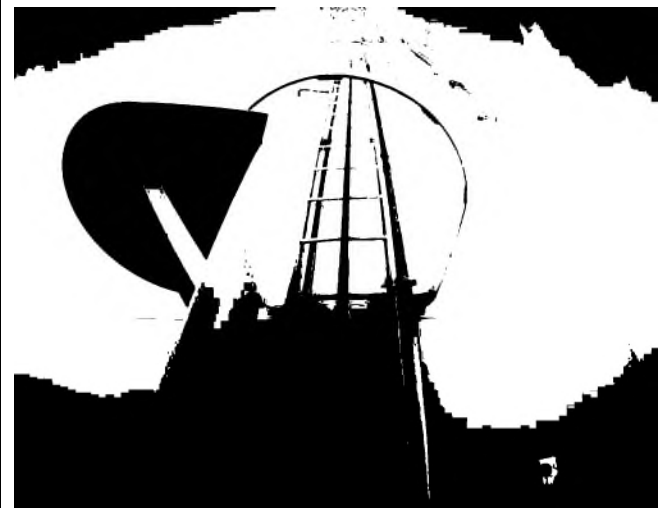
Summary: The water level indicator was found in good condition.



### Access Ladder Condition

Ladder Type: Steel welded  
 Is Ladder and Safety Climb OSHA Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

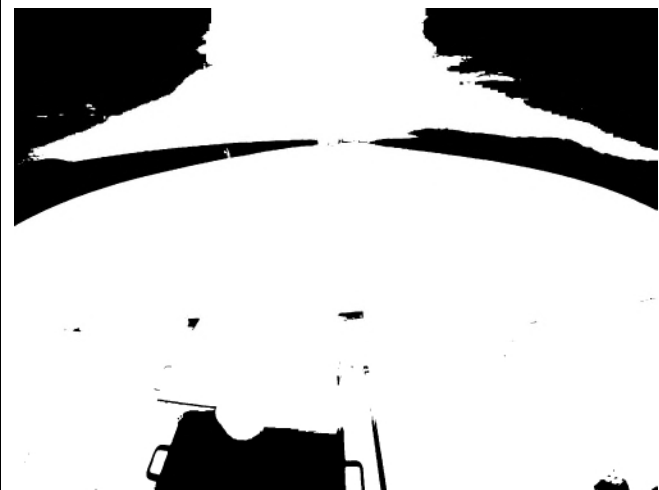
Summary: The ladder was found secure, OSHA approved and in good condition with minor chalking noted.



### Roof Condition

Roof Type: Pitched  
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 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 minor staining and moderate cracking noted.

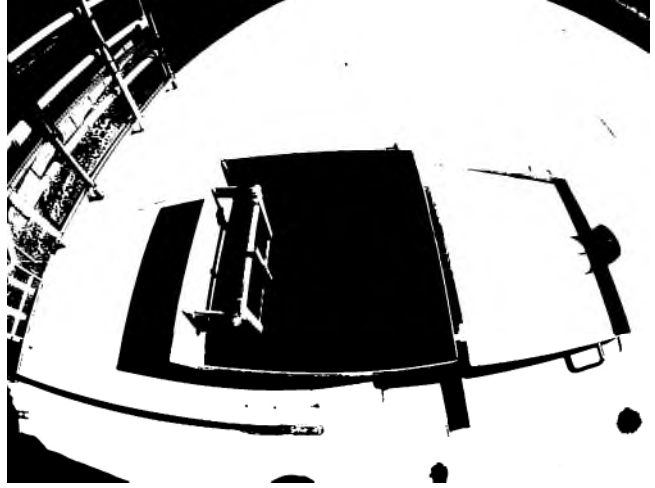
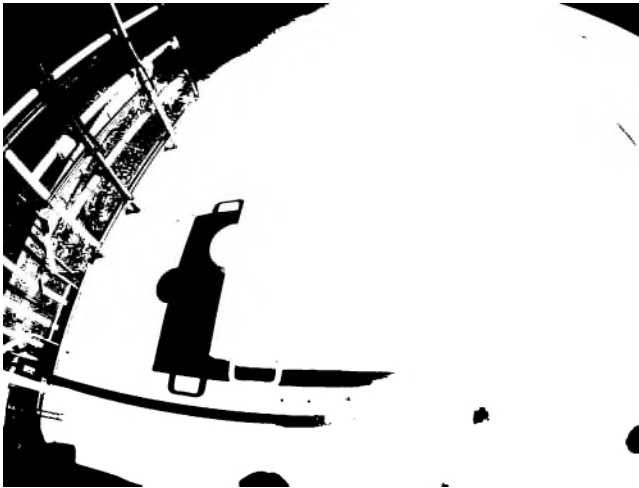


### Access Hatch Condition

Coating Condition: Good  
Seams/Welds Condition: Good  
Corrosion Present: Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Hatch Size: 3 foot square  
Riser Height: 10 inches Lid Height: 2½ inches  
Hatch Locked? Y  N   
Hinge Condition: Good

Gasket Present? Y  N   
Intact? Y  N  N/A   
Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with a gasket in place and in good condition with minor corrosive staining, oxidation, heavy chalking and 0.01% uniform surface corrosion noted.



### Vent Condition

Coating Condition: Both Good  
Seams/Welds Condition: Both Good  
Corrosion Present: Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
#24 Mesh Screen in Place? Y  N   
Condition: Both Good

All Openings Sealed? Y  N   
Cap Condition: Both Good

Summary: The vents were found in good condition with minor corrosive staining, moderate chalking and 0.01% surface corrosion noted.







# Inland Potable Services, Inc.

## Interior Inspection Report



### Roof Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present On Panels? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

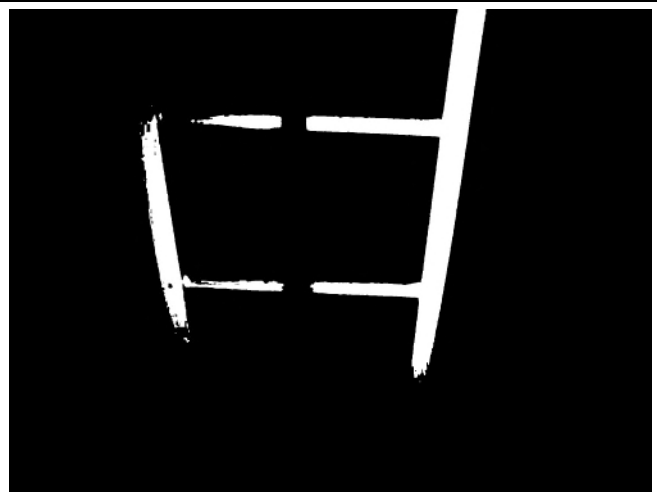
Summary: The interior roof was found in good condition with minor sags & runs in the coating, micro blistering and 0.01% intergranular corrosion noted.



### Ladder Condition

Ladder Location: 12 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure and in good condition with moderate sediment staining and 0.01% rust noduling noted.



### Overflow Condition

Overflow Location: 9 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

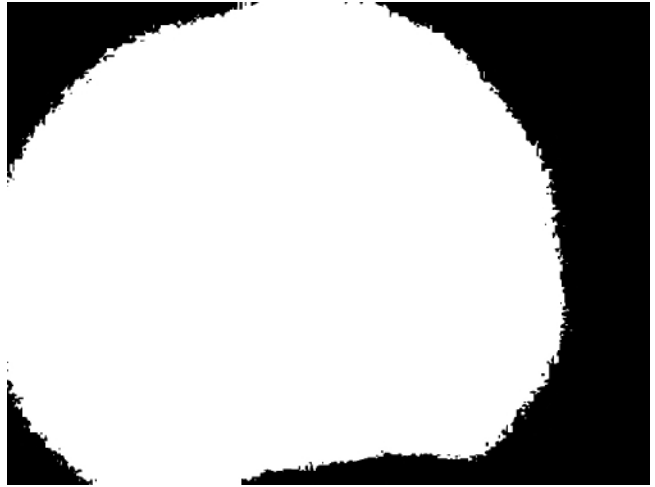
Summary: The overflow was found in good condition with moderate sediment staining, sags & runs in the coating and heavy chalking noted.



### Wall Panel Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good condition with minor sags & runs in the coating, moderate micro & macro blistering and heavy chalking noted.



### Floor Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in good condition with minor sags & runs in the coating, micro & macro blistering and heavy chalking noted.



### Manway Condition

Manway Location(s): 2 o'clock & 7 o'clock  
Coating Condition: Both Good  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The manways were found in good condition with minor sags & runs in the coating and micro & macro blistering noted.



### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N  Location: N/A

If Separate:

Inlet Location: 3 o'clock

Coating Condition: Good

Weld/Seam Condition: Good

Corrosion Present? Y  N

Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The inlet was found in good condition with minor de-lamination, micro & macro blistering, sags & runs in the coating, heavy chalking and 0.01% uniform surface corrosion noted.



Common Inlet/Outlet? Y  N  Location: N/A

If Separate:

Outlet Location: 7 o'clock

Coating Condition: Good

Weld/Seam Condition: Good

Corrosion Present? Y  N

Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The outlet was found in good condition with moderate sags & runs in the coating, sediment staining, micro & macro blistering, heavy chalking and 0.01% uniform surface corrosion noted.



### Float Condition

Float Location: 11:50 o'clock  
Guidelines Condition: Good  
Attached Properly? Y  N   
Cable Condition: Good  
Attached Properly? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N   
Float Condition: Good  
Sealed? Y  N

Summary: The float was found in good condition.



### Support Column Condition

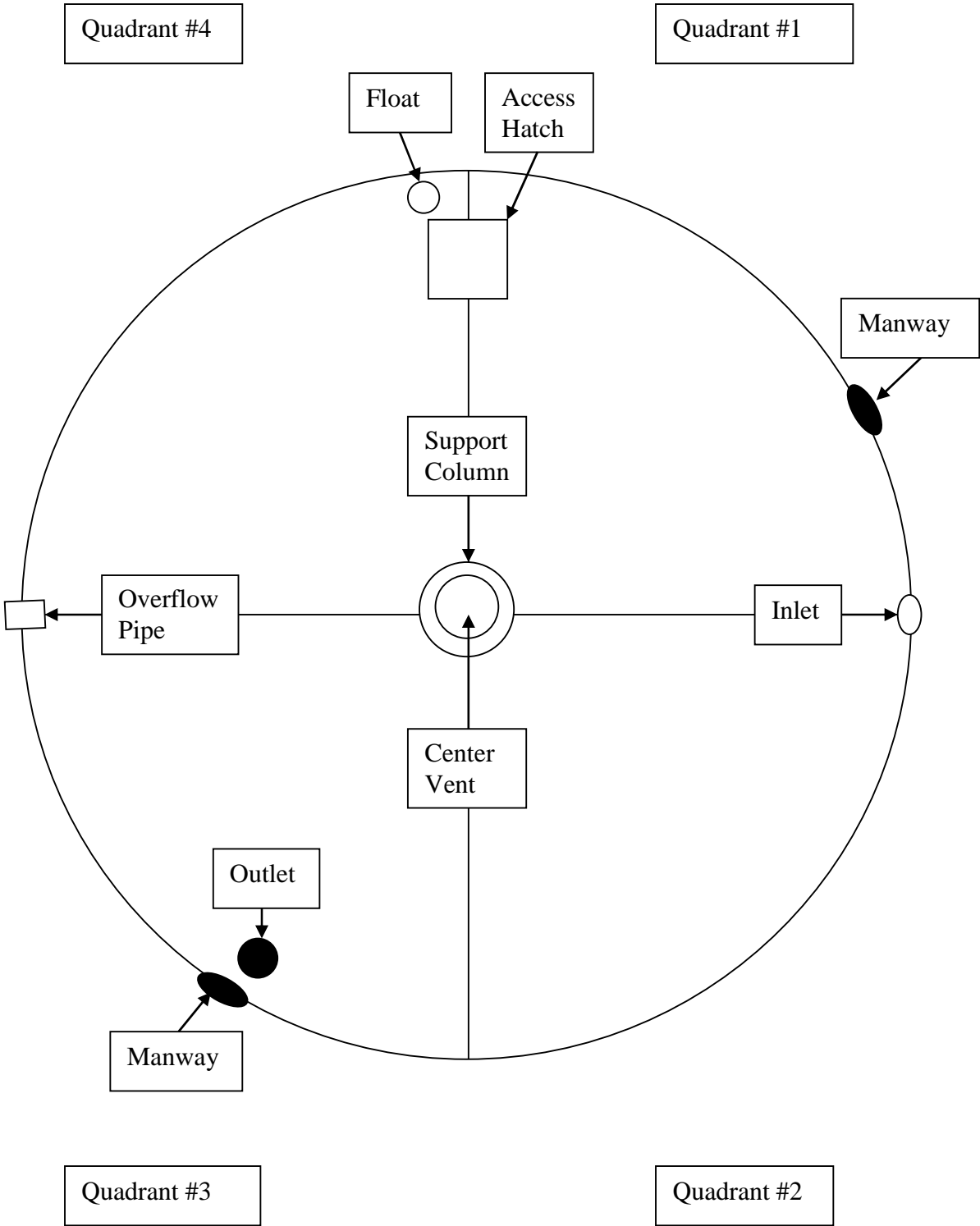
Number Of Columns: 1  
Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N

De-lamination Present? Y  N

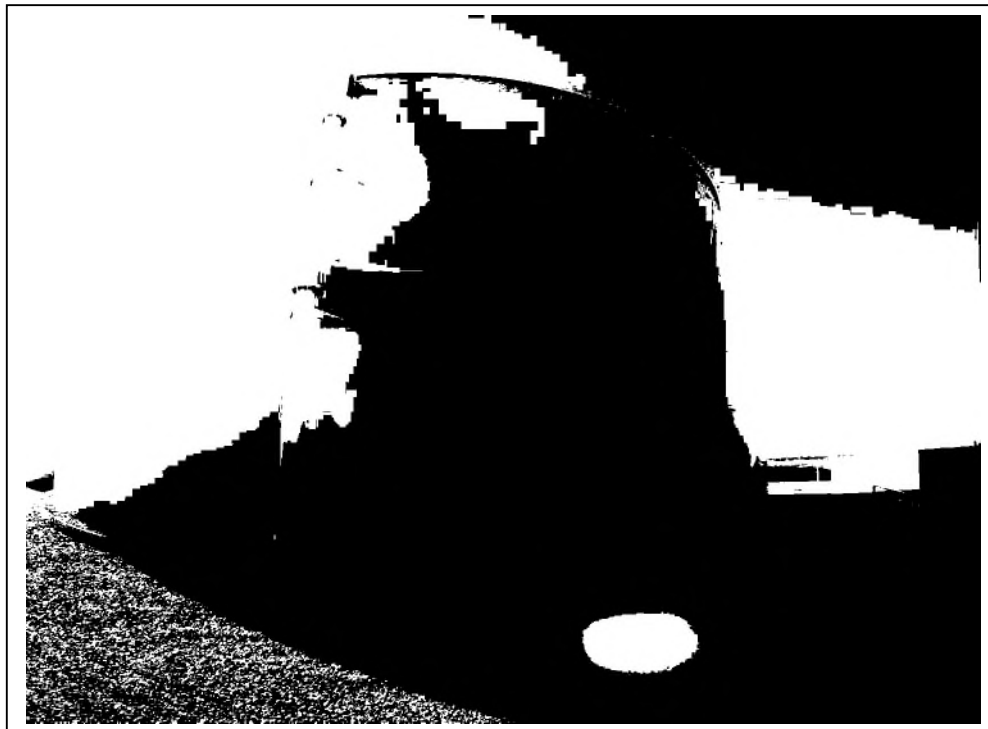
Summary: The support column was found in good condition with minor micro & macro blistering, sags & runs in the coating and heavy chalking noted.



Tank Layout



**Inspection Report for  
Great Basin Water Company  
Pahrump, NV**



**553KG Steel On-Grade  
Tank #1**

**Date Completed: April 29, 2022**

**Commercial Dive Team:**

**Diver – David Anderson  
Dive Controller – Alek Sharp  
Tender – Nathan Monroe**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth, averaging 1 inch (iron & manganese), was removed from the 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 base of the tank was found in good condition.
3. The wall was found in good condition with minor sags & runs in the coating and chalking noted.
4. The overflow was found in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.
5. The manways were found secure and in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.
6. The water level indicator was found in good condition.
7. The ladder was found secure, OSHA approved and in good condition with minor de-lamination, chalking, sags & runs in the coating and 0.01% concentrated cell corrosion noted.
8. The hatch was found locked with a gasket in place and in good condition with minor sags & runs in the coating and chalking noted.
9. The roof was found in good condition with minor sags & runs in the coating and chalking noted.
10. The vent was found in good condition with minor sags & runs in the coating, chalking, pinholes and 0.01% concentrated cell corrosion noted.

### **Key**

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% concentrated cell corrosion & uniform surface corrosion noted.
2. The ladder was found secure and in good condition with minor sags & runs in the coating, sediment staining, 0.01% concentrated cell corrosion and 0.3% galvanic corrosion noted.
3. The overflow was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% concentrated cell corrosion noted.
4. The interior wall was found in good condition with minor sediment & corrosive staining, micro & macro blistering, sags & runs in the coating, chalking and 0.01% uniform surface corrosion noted.
5. The floor was found in good condition with minor sediment staining, chalking and micro & macro blistering noted.
6. The drain was found in good condition with minor sags & runs in the coating, chalking, corrosive staining and 0.01% uniform surface corrosion noted.
7. The manways were found in good condition with minor sags & runs in the coating, chalking, micro & macro blistering, moderate sediment staining and 0.01% uniform surface corrosion noted.
8. The support column was found secure and in good condition with minor sediment & corrosive staining, micro & macro blistering, sags & runs in the coating, cracking and 0.01% concentrated cell corrosion noted.
9. The inlet was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% uniform surface corrosion noted.
10. The outlet was found in good condition with minor sags & runs in the coating, moderate chalking and sediment staining noted.
11. The float was found in good condition.

### **Recommendations:**

1. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **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**



**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  N/A   
 Spalling Noted? Y  N  N/A

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



**Wall Panel Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N   
 Signs Of Leaking? Y  N

Summary: The wall was found in good condition with minor sags & runs in the coating and chalking noted.



**Overflow Structure Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

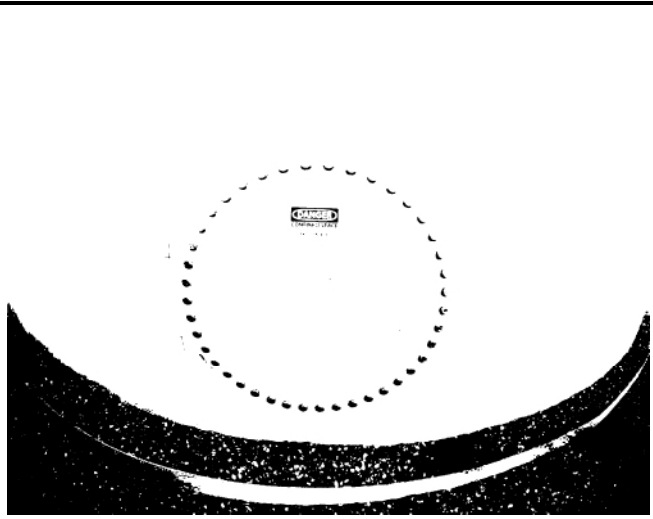
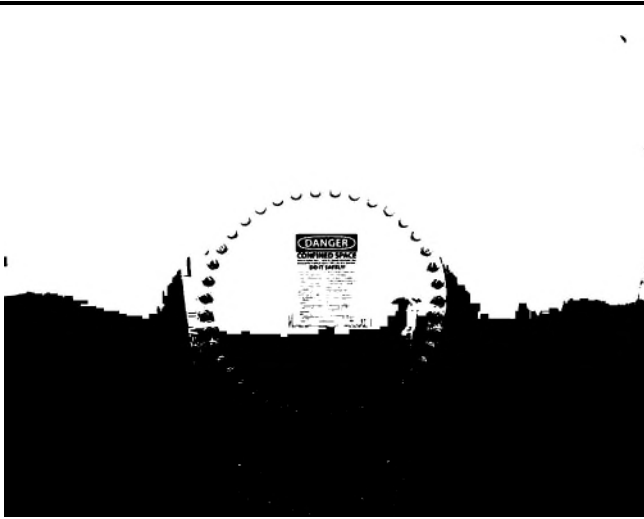
Summary: The overflow was found in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.



### Manway Condition

Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

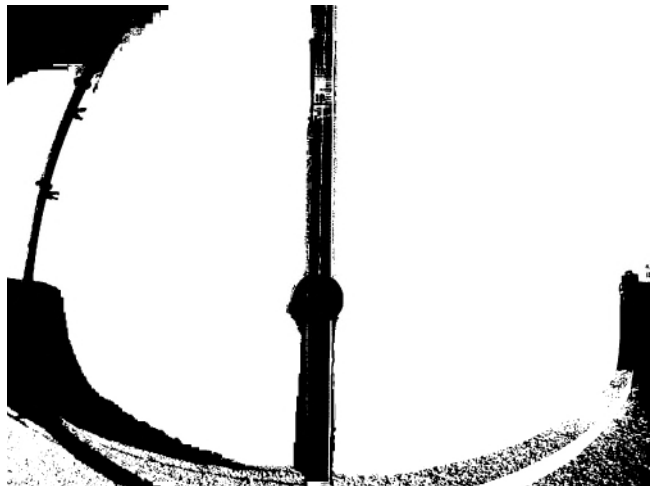
Summary: The manways were found secure and in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.



### Water Level Indicator Condition

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Marker Board Condition: Good  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

Summary: The water level indicator was found in good condition.



### Access Ladder Condition

Ladder Type: Steel  
 Is Ladder and Safety Climb **OSHA** Approved? Y  N   
 Is Vandal Guard Present? Y  N   
     Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in good condition with minor de-lamination, chalking, sags & runs in the coating and 0.01% concentrated cell corrosion noted.

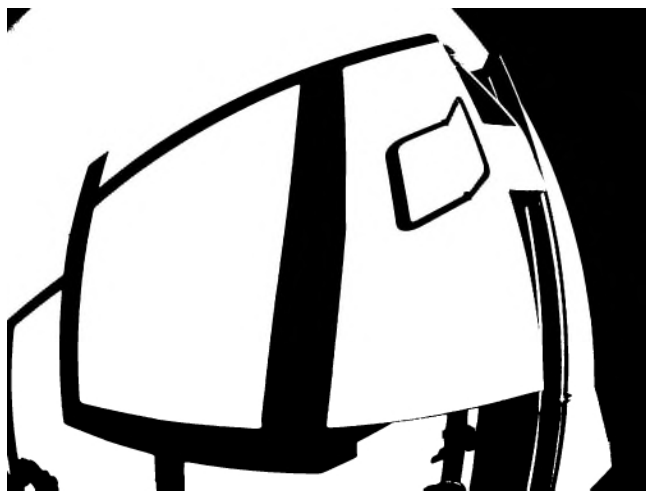


### Access Hatch Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 2½ foot square  
     Riser Height: 4 inches   Lid Height: 2 inches  
 Hatch Locked? Y  N

Hinge Condition: Good  
 Gasket Present? Y  N   
     Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with a gasket in place and in good condition with minor sags & runs in the coating and chalking noted.



### Roof Condition

Roof Type: Flat  
Coating Condition: Good  
Seams/Welds Condition: Good  
Corrosion Present? Y  N   
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 minor sags & runs in the coating and chalking noted.



### Vent Condition

Coating Condition: Good  
Seams/Welds Condition: Good  
Corrosion Present: Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
#24 Mesh Screen in Place? Y  N   
    Condition: Good

All Openings Sealed? Y  N   
Cap Condition: Good

Summary: The vent was found in good condition with minor sags & runs in the coating, chalking, pinholes and 0.01% concentrated cell corrosion noted.





# Inland Potable Services, Inc.

## Interior Inspection Report



### Roof Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present On Panels? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

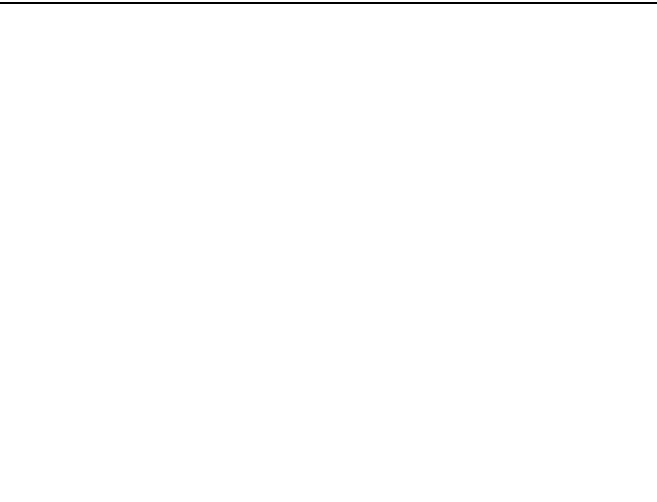
Summary: The interior roof was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% concentrated cell corrosion & uniform surface corrosion noted.



### Ladder Condition

Ladder Location: 12 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure and in good condition with minor sags & runs in the coating, sediment staining, 0.01% concentrated cell corrosion and 0.3% galvanic corrosion noted.



### Overflow Condition

Overflow Location: 5 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The overflow was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% concentrated cell corrosion noted.



### Wall Panel Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present? Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good condition with minor sediment & corrosive staining, micro & macro blistering, sags & runs in the coating, chalking and 0.01% uniform surface corrosion noted.



### Floor Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Any irregularities or structural deficiencies? Y  N

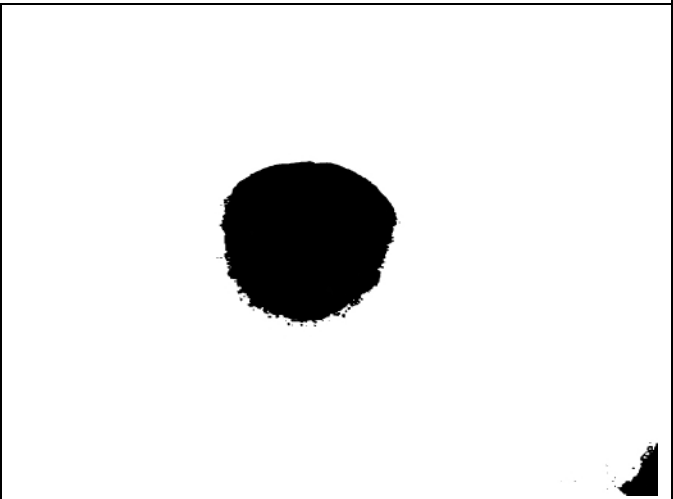
Summary: The floor was found in good condition with minor sediment staining, chalking and micro & macro blistering noted.



### Drain Condition

Drain Location: 5 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The drain was found in good condition with minor sags & runs in the coating, chalking, corrosive staining and 0.01% uniform surface corrosion noted.



### Manway Condition

Manway Location(s): 5:45 o'clock & 10 o'clock  
Coating Condition: Both Good  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The manways were found in good condition with minor sags & runs in the coating, chalking, micro & macro blistering, moderate sediment staining and 0.01% uniform surface corrosion noted.



### Support Column Condition

Number Of Columns: 1  
Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

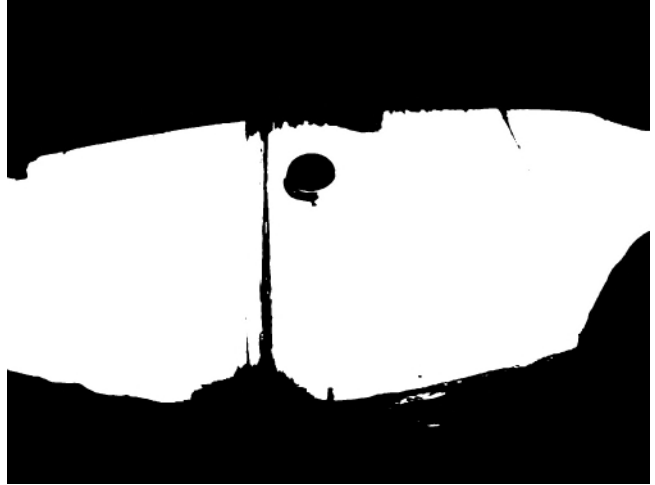
Summary: The support column was found secure and in good condition with minor sediment & corrosive staining, micro & macro blistering, sags & runs in the coating, cracking and 0.01% concentrated cell corrosion noted.



### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N  Location: N/A  
Inlet Location: 6 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The inlet was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% uniform surface corrosion noted.



Common Inlet/Outlet? Y  N  Location: N/A  
Outlet Location: 12 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

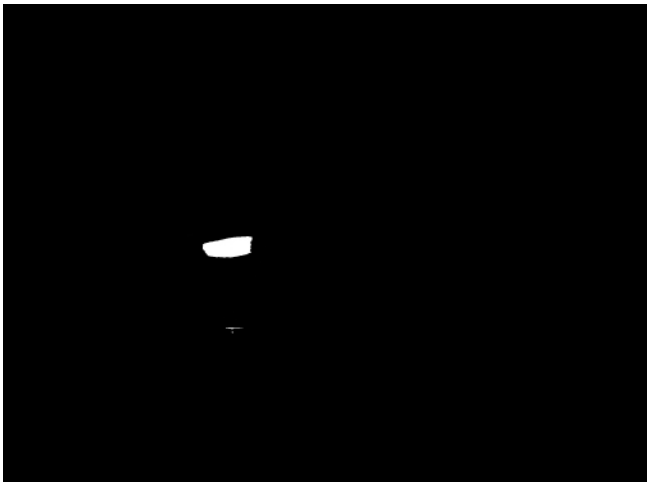
Summary: The outlet was found in good condition with minor sags & runs in the coating, moderate chalking and sediment staining noted.



### Float Condition

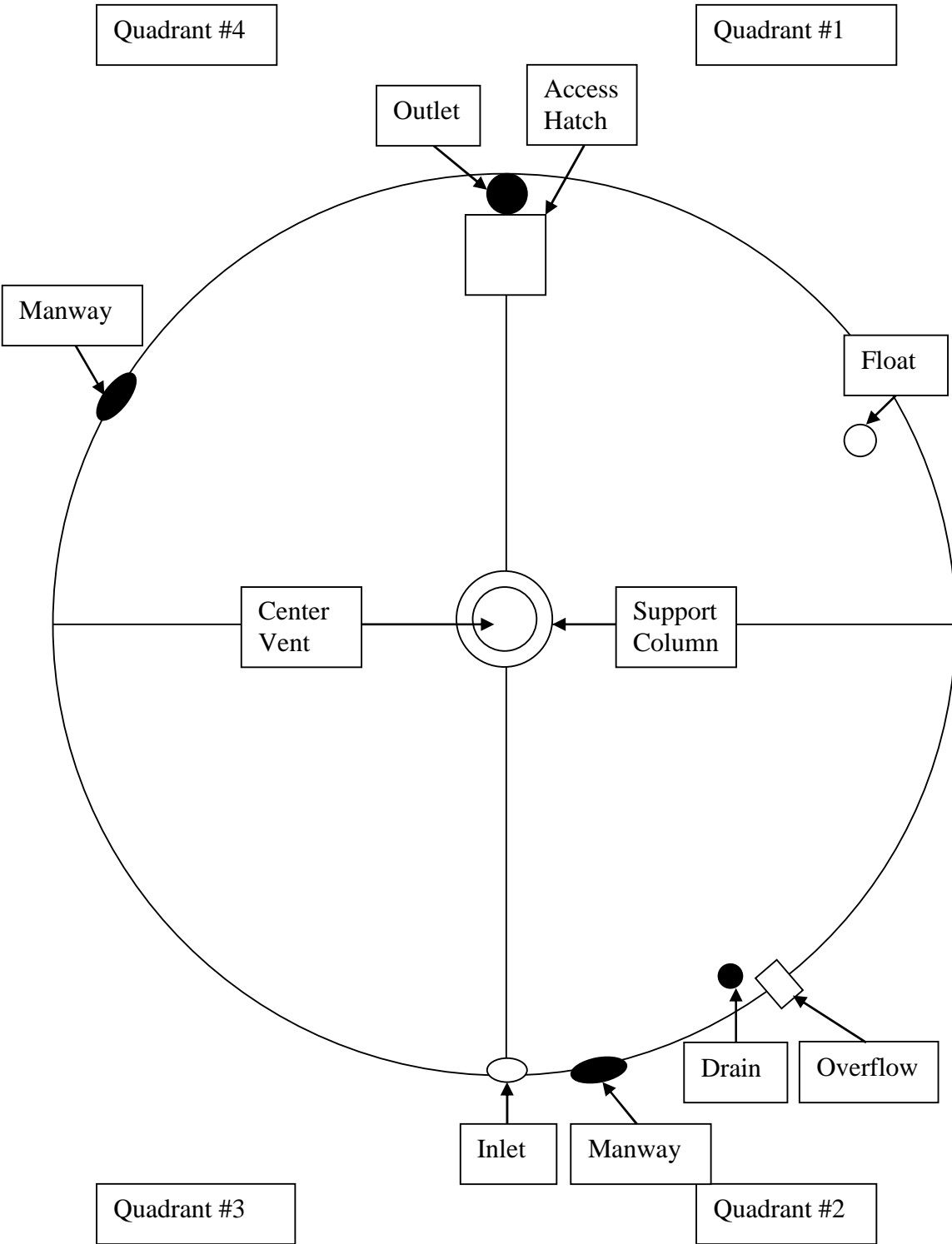
Float Location: 2 o'clock  
Guidelines Condition: Good  
Attached Properly? Y  N   
Cable Condition: Good  
Attached Properly? Y  N   
Float Condition: Good  
Sealed? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N

Summary: The float was found in good condition.

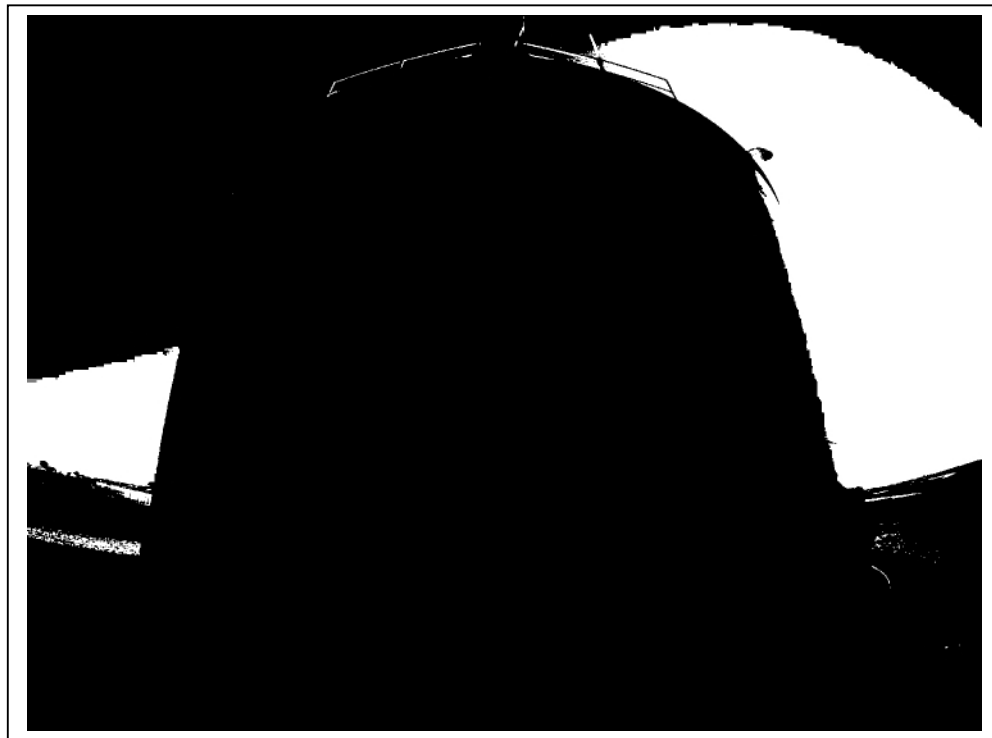




Tank Layout



**Inspection Report for  
Great Basin Water Company  
Pahrump, NV**



**553KG Steel On-Grade  
Tank #2**

**Date Completed: April 29, 2022**

**Commercial Dive Team:**

**Diver – David Anderson  
Dive Controller – Alek Sharp  
Tender – Nathan Monroe**

## Scope of Work:

Our team completed sediment removal using underwater vacuum equipment. Sediment depth, averaging ¼ inch (iron & manganese), was removed from the 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 base of the tank was found in good condition.
3. The wall was found in good condition with minor de-lamination, sags & runs in the coating, cracking and 0.01% uniform surface corrosion noted.
4. The overflow was found in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.
5. The manways were found secure and in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.
6. The water level indicator was found in good condition.
7. The ladder was found secure, OSHA approved and in good condition with minor de-lamination, sags & runs in the coating, chalking, corrosive staining and 0.01% uniform surface corrosion noted.
8. The hatch was found locked with a gasket in place and in good condition with minor de-lamination, chalking, sags & runs in the coating and 0.01% uniform surface corrosion noted.
9. The roof was found in good condition with minor sags & runs in the coating and chalking noted.
10. The vent was found in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.

### Key

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% concentrated cell corrosion & uniform surface corrosion noted.
2. The ladder was found in good condition with minor sediment staining and 0.01% uniform surface corrosion noted.
3. The overflow was found in good condition with minor corrosive staining, sags & runs in the coating and 0.01% concentrated cell corrosion noted.
4. The interior wall was found in good condition with minor sags & runs in the coating, micro & macro blistering and sediment staining noted.
5. The floor was found in good condition with minor sediment staining, chalking and micro & macro blistering noted.
6. The inlet was found in good condition with minor chalking and sediment staining noted.
7. The manways were found in good condition with minor sags & runs in the coating, chalking, sediment & corrosive staining and 0.01% concentrated cell corrosion noted.
8. The support column was found secure and in good condition with minor sags & runs in the coating, micro & macro blistering and sediment staining noted.
9. The inlet was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% uniform surface corrosion noted.
10. The outlet was found in good condition with minor sags & runs in the coating, moderate sediment staining and 0.01% concentrated cell corrosion noted.
11. The float was found in good condition with 0.01% concentrated cell corrosion noted.

### **Recommendations:**

1. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **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.

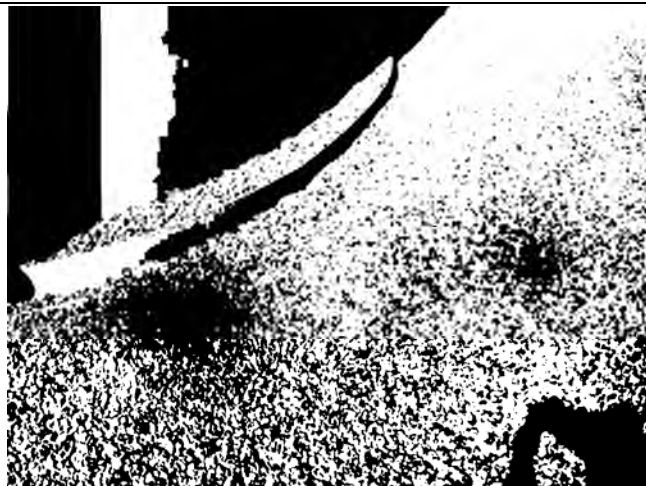
## Exterior Inspection Report



### 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  N/A   
 Spalling Noted? Y  N  N/A

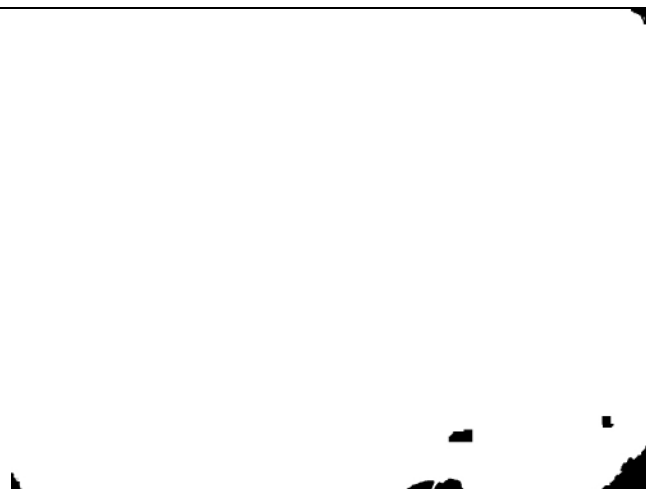
Summary: The base of the tank was found in good condition.



### Wall Panel Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N   
 Signs Of Leaking? Y  N

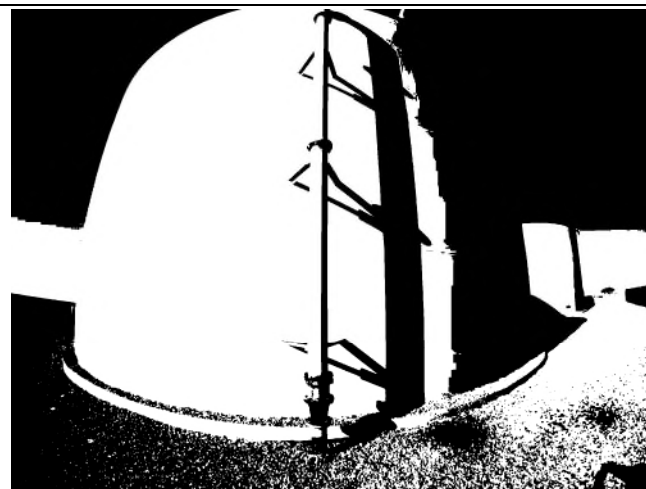
Summary: The wall was found in good condition with minor de-lamination, sags & runs in the coating, cracking and 0.01% uniform surface corrosion noted.



### Overflow Structure Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

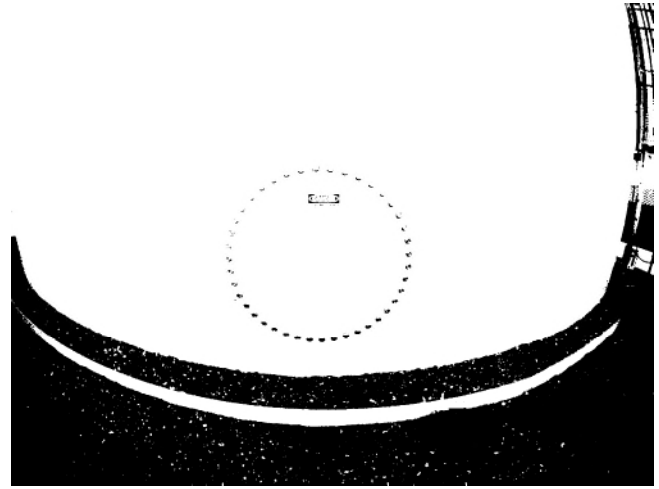
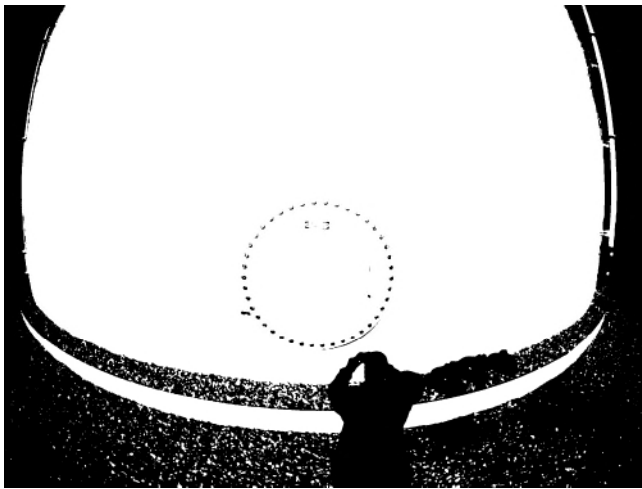
Summary: The overflow was found in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.



**Manway Condition**

Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

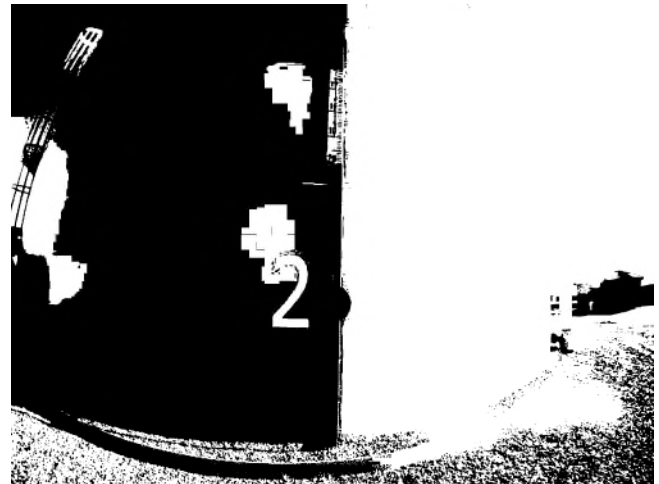
Summary: The manways were found secure and in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.



**Water Level Indicator Condition**

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Marker Board Condition: Good  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

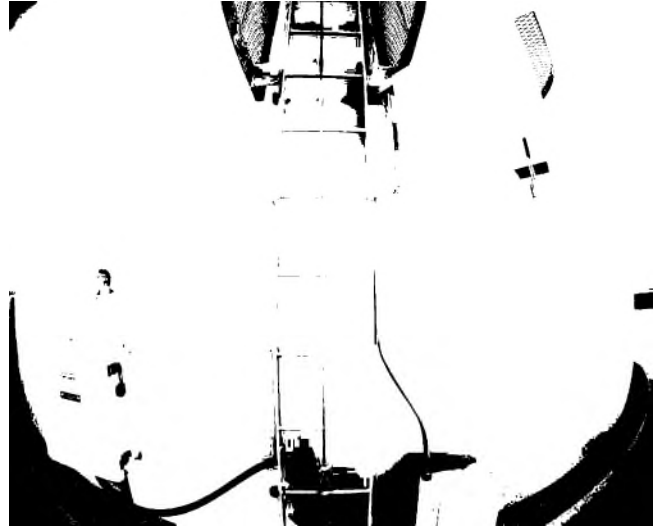
Summary: The water level indicator was found in good condition.



### Access Ladder Condition

Ladder Type: Steel  
 Is Ladder and Safety Climb **OSHA** Approved? Y  N   
 Is Vandal Guard Present? Y  N   
     Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in good condition with minor de-lamination, sags & runs in the coating, chalking, corrosive staining and 0.01% uniform surface corrosion noted.

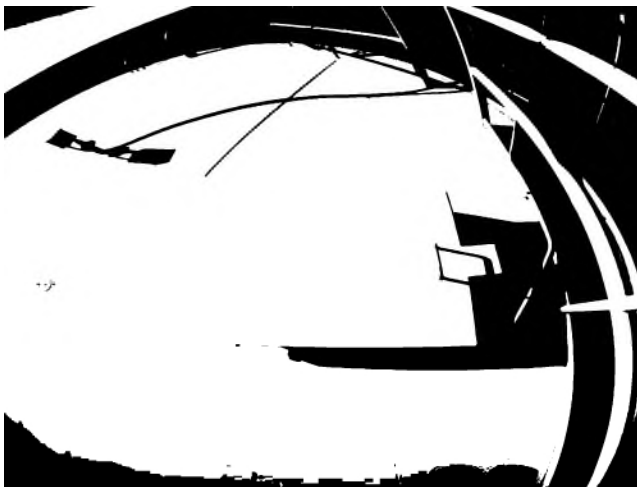


### Access Hatch Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 2½ foot square  
     Riser Height: 4 inches   Lid Height: 2 inches  
 Hatch Locked? Y  N   
 Hinge Condition: Good

Gasket Present? Y  N   
     Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with a gasket in place and in good condition with minor de-lamination, chalking, sags & runs in the coating and 0.01% uniform surface corrosion noted.



### Roof Condition

Roof Type: Flat  
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 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 minor sags & runs in the coating and chalking noted.

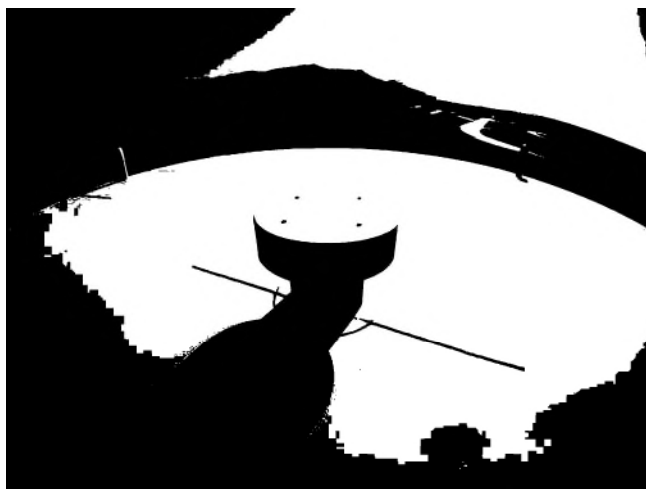


### Vent Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 #24 Mesh Screen in Place? Y  N   
 Condition: Good

All Openings Sealed? Y  N   
 Cap Condition: Good

Summary: The vent was found in good condition with minor de-lamination, sags & runs in the coating, chalking and 0.01% concentrated cell corrosion noted.







# Inland Potable Services, Inc.

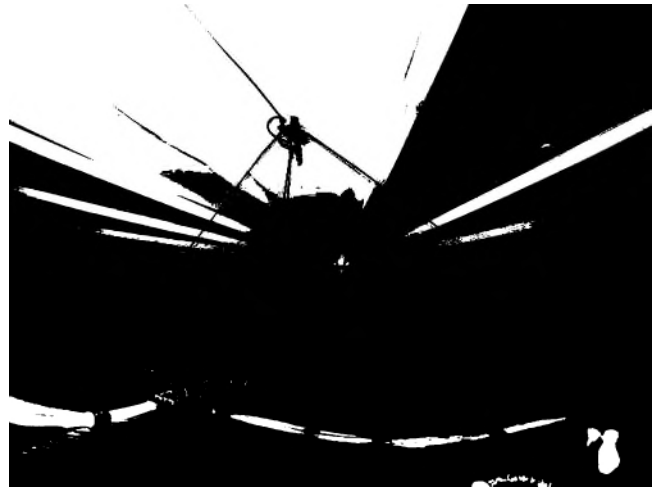
## Interior Inspection Report



### Roof Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present On Panels? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

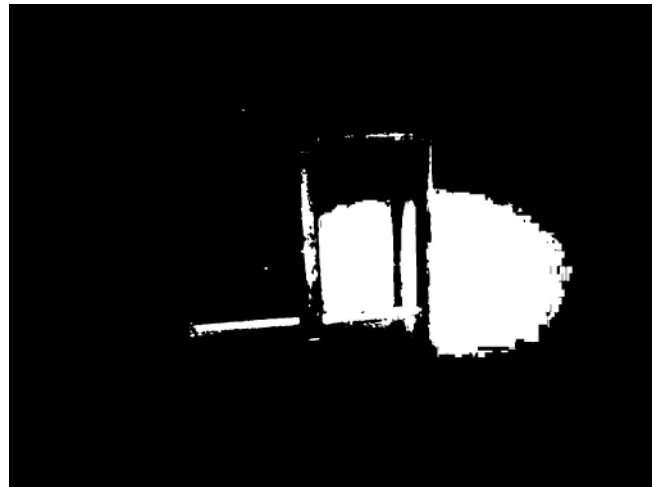
Summary: The interior roof was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% concentrated cell corrosion & uniform surface corrosion noted.



### Ladder Condition

Ladder Location: 12 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

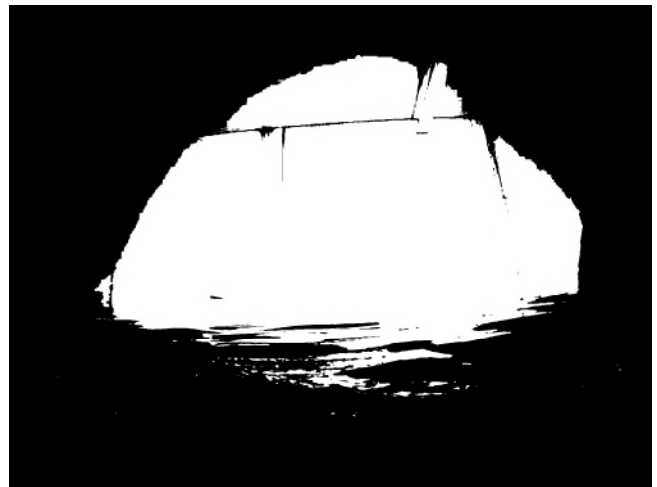
Summary: The ladder was found in good condition with minor sediment staining and 0.01% uniform surface corrosion noted.



### Overflow Condition

Overflow Location: 9 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

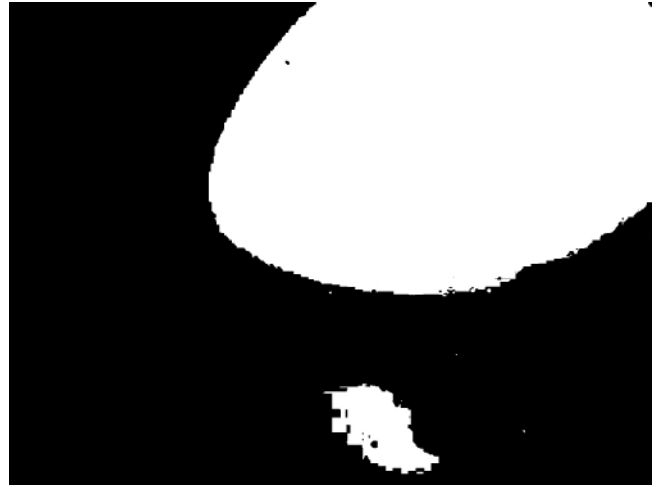
Summary: The overflow was found in good condition with minor corrosive staining, sags & runs in the coating and 0.01% concentrated cell corrosion noted.



### Wall Panel Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present? Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good condition with minor sags & runs in the coating, micro & macro blistering and sediment staining noted.



### Floor Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in good condition with minor sediment staining, chalking and micro & macro blistering noted.



### Drain Condition

Drain Location: 8 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The inlet was found in good condition with minor chalking and sediment staining noted.



### Manway Condition

Manway Location(s): 1 o'clock & 5 o'clock  
Coating Condition: Both Good  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The manways were found in good condition with minor sags & runs in the coating, chalking, sediment & corrosive staining and 0.01% concentrated cell corrosion noted.

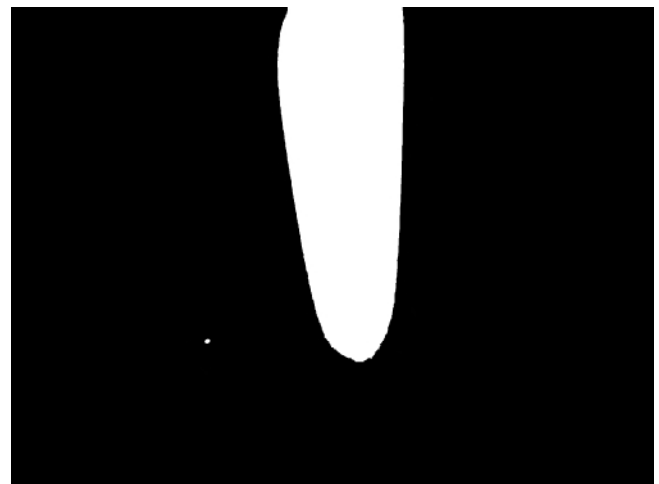
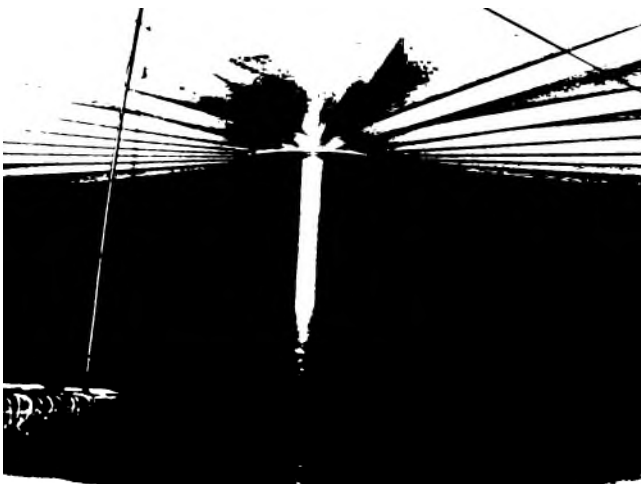


### Support Column Condition

Number Of Columns: 1  
Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N

De-lamination Present? Y  N

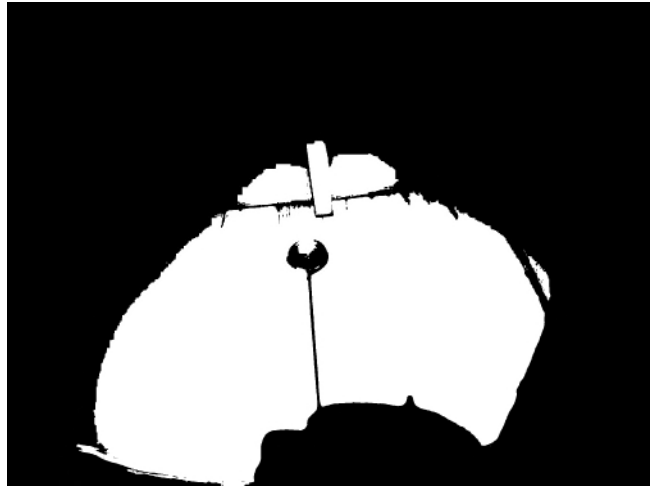
Summary: The support column was found secure and in good condition with minor sags & runs in the coating, micro & macro blistering and sediment staining noted.



### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N  Location: N/A  
Inlet Location: 6 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The inlet was found in good condition with minor sags & runs in the coating, corrosive staining and 0.01% uniform surface corrosion noted.



Common Inlet/Outlet? Y  N  Location: N/A  
Outlet Location: 12 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The outlet was found in good condition with minor sags & runs in the coating, moderate sediment staining and 0.01% concentrated cell corrosion noted.



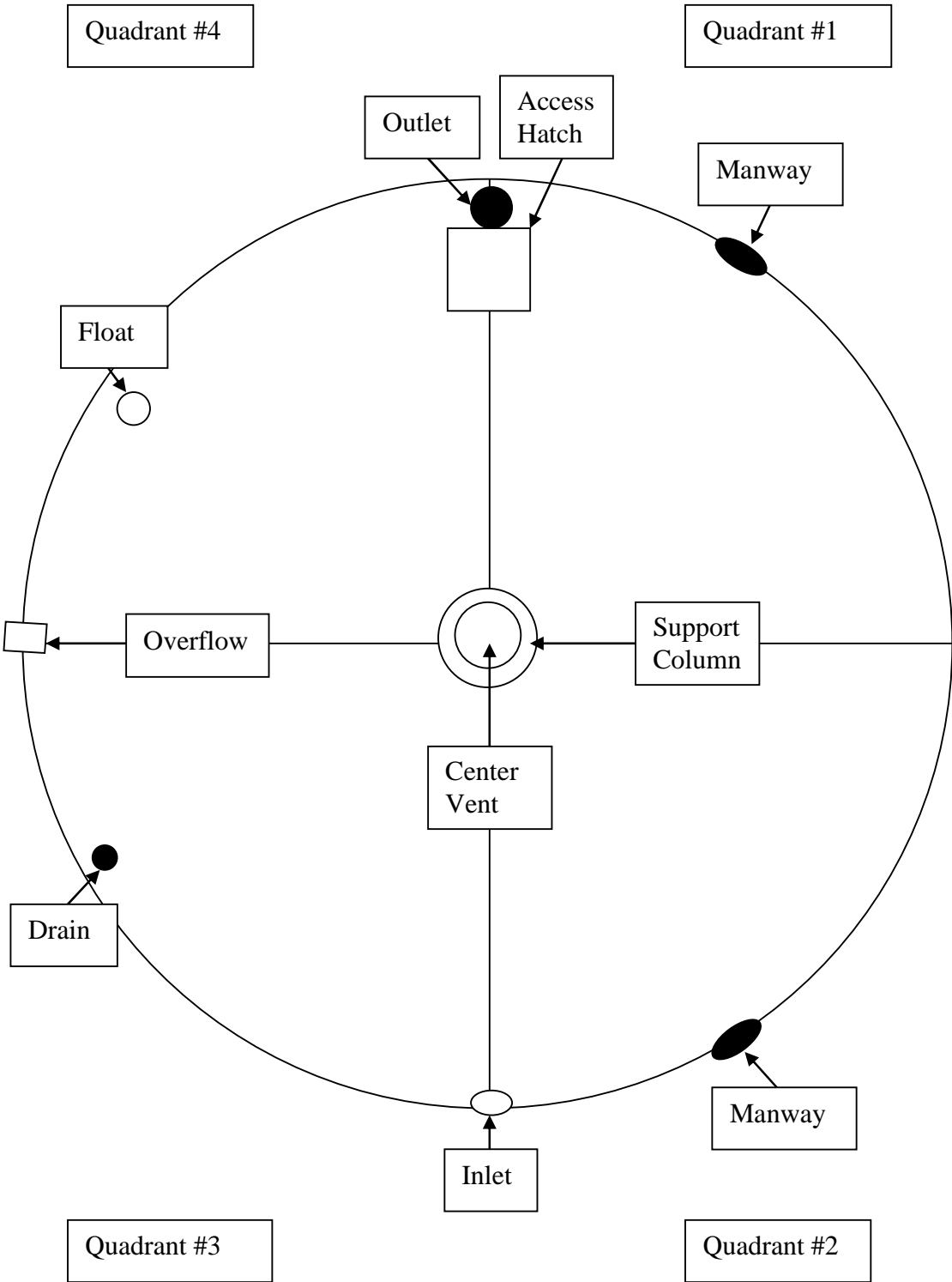
### Float Condition

Float Location: 10 o'clock  
Guidelines Condition: Good  
Attached Properly? Y  N   
Cable Condition: Good  
Attached Properly? Y  N   
Float Condition: Good  
Sealed? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N

Summary: The float was found in good condition with 0.01% concentrated cell corrosion noted.

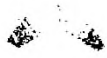


Tank Layout



***Great Basin Water Company – Pahrump Division (Volume II)***

Sanitary Surveys



March 16, 2021

Mr. Bill Coates  
 1240 East State Street Ste 115  
 Pahrump, NV 89048

**Subject: Part 2 – Virtual Sanitary Survey of Calvada Meadows GBWC (NV0000408); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, March 11, 2021**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

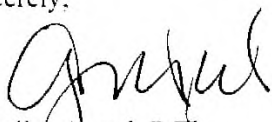
The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelito Accad, P.E.  
Bureau of Safe Drinking Water  
aaccad@ndep.nv.gov

cc: Alisha Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File



March 23, 2021

Mr. Bill Coates  
 1240 East State Street Ste 115  
 Pahrump, NV 89048

**Subject: Part 2 – Virtual Sanitary Survey of Calvada Meadows GBWC (NV0000408); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, March 11, 2021**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

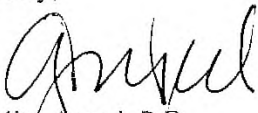
The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelito Accad, P.E.  
Bureau of Safe Drinking Water  
aaccad@ndep.nv.gov

ec: Alisha Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File

January 5, 2021

Mr. Bill Coates  
1240 East State Street Ste 115  
Pahrump, NV 89048

**Subject: Part One - Virtual Sanitary Survey of Great Basin Water Company (NV0000270); Nye County**

Dear Mr. Hartz,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, December 3, 2020**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

January 5, 2021

Page 2 of 2

Part One - Virtual Sanitary Survey of Great Basin Water Company (NV0000270); Nye County

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

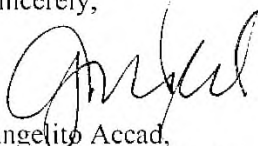
The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelito Accad,  
Bureau of Safe Drinking Water  
[aaccad@ndep.nv.gov](mailto:aaccad@ndep.nv.gov)

cc: Alicia Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File



NEVADA DIVISION OF  
**ENVIRONMENTAL  
 PROTECTION**

**STATE OF NEVADA**  
 Department of Conservation & Natural Resources  
 Steve Sisolak, Governor  
 Bradley Crowell, Director  
 Greg Lovato, Administrator

March 25, 2021

Mr. Bill Coates  
 1240 East State Street Ste 115  
 Pahrump, NV 89048

**Subject: Part Two – Virtual Sanitary Survey of Country View Estates GBWC (NV0005032); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, March 18, 2021**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelito Accad, P.E.  
Bureau of Safe Drinking Water  
[aaccad@ndep.nv.gov](mailto:aaccad@ndep.nv.gov)

ec: Alicia Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File

NEVADA DIVISION OF  
**ENVIRONMENTAL  
PROTECTION**

STATE OF NEVADA  
Department of Conservation & Natural Resources  
Steve Sisolak, Governor  
Bradley Crowell, Director  
Greg Lovato, Administrator

December 31, 2020

Mr. Bill Coates  
1240 East State Street Ste 115  
Pahrump, NV 89048

**Subject: Part One - Virtual Sanitary Survey of Mountain Falls Water System GBWC (NV0000920); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, November 12, 2020**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Mark Windholz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

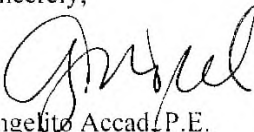
The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelito Accad, P.E.  
Bureau of Safe Drinking Water  
aaccad@ndep.nv.gov

ec: Alicia Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwatereco.com](mailto:Bill.Coates@greatbasinwatereco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwatereco.com](mailto:Jeff.hartz@greatbasinwatereco.com)

cc: File





NEVADA DIVISION OF  
**ENVIRONMENTAL  
PROTECTION**

**STATE OF NEVADA**  
Department of Conservation & Natural Resources

Steve Sisolak, Governor  
Bradley Crowell, Director  
Greg Lovato, Administrator

March 25, 2021

Mr. Bill Coates  
1240 East State Street Ste 115  
Pahrump, NV 89048

**Subject: Part Two – Virtual Sanitary Survey of Mountain Falls Water System GBWC  
(NV0000920); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, March 18, 2021**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

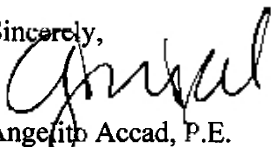
The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelito Accad, P.E.  
Bureau of Safe Drinking Water  
[aaccad@ndep.nv.gov](mailto:aaccad@ndep.nv.gov)

ec: Alicia Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File



March 16, 2021

Mr. Bill Coates  
 1240 East State Street Ste 115  
 Pahrump, NV 89048

**Subject: Part 2 – Virtual Sanitary Survey of Mountain View MHP GBWC (NV0005067); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, March 11, 2021**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

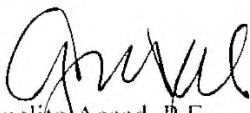
The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelito Accad, P.E.  
Bureau of Safe Drinking Water  
aaccad@ndep.nv.gov

cc: Alisha Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File



March 23, 2021

Mr. Bill Coates  
 1240 East State Street Ste 115  
 Pahrump, NV 89048

**Subject: Part 2 – Virtual Sanitary Survey of Mountain View MHP GBWC (NV0005067); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, March 11, 2021**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

No violations.

**Positive bacteriological sampling history for the past year:**

No violations.

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

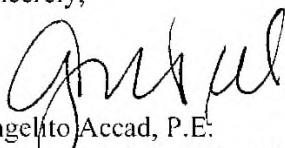
The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.

Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,



Angelo Accad, P.E.  
Bureau of Safe Drinking Water  
aaccad@ndep.nv.gov

ec: Alisha Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File



NEVADA DIVISION OF  
**ENVIRONMENTAL  
 PROTECTION**

STATE OF NEVADA  
 Department of Conservation & Natural Resources  
 Steve Sisofak, Governor  
 Bradley Crowell, Director  
 Greg Lovato, Administrator

December 31, 2020

Mr. Bill Coates  
 1240 East State Street Ste 115  
 Pahrump, NV 89048

**Subject: Part One - Virtual Sanitary Survey of Spring Mountain Motor Sports Ranch (NV0001093); Nye County**

Dear Mr. Coates,

This letter serves to report the results of the Sanitary Survey inspection conducted virtually by the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water (BSDW), of the above referenced facility on **Thursday, November 12, 2020**. Although a virtual sanitary survey was conducted, this does not preclude BSDW from performing a follow up on-site visit once travel restrictions are lifted. The assistance of water system representatives mentioned below was very helpful and greatly appreciated.

**Parties Present**

Bill Coates	GREAT BASIN WATER COMPANY
Jeffrey Hartz	GREAT BASIN WATER COMPANY
Mark Windholz	GREAT BASIN WATER COMPANY
Angelito Accad	BUREAU OF SAFE DRINKING WATER

**Significant Deficiencies**

No observations were recorded in this category.

**Other Deficiencies**

No observations were recorded in this category.

**Observations/Recommendations**

No observations were recorded in this category.

**Monitoring and Reporting**

**Monitoring Violations:**

No violations.

**Maximum Contaminant Level (MCL) Violations during the past year:**

No violations.

**Other Violations during the past year:**

Violation Date	Violation Type	Compliance Period Begin Date	Compliance Period End Date
11/13/2020	4B -REPORT SAMPLE RESULT/FAIL MONITOR RTCR	9/1/2020	9/30/2020

**Positive bacteriological sampling history for the past year:**

Sample ID	Sample Type	Date	Chlorine Residual	Comment
19060515-001	RP	6/14/2019		
19060515-002	RP	6/14/2019		
19060515-003	RP	6/14/2019		
19060406-001	RT	6/12/2019		
19050402-001	RT	5/14/2019		

**Reminders**

The Nevada Administrative Code (NAC) 445A.6669 requires the Division's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.

The Nevada Administrative Code contains specific requirements for record keeping. Some records must be kept for as long as ten years. The Public Water System is responsible for maintaining its own records.

The "Reduction of Lead in Drinking Water Act of 2011" and "Community Fire Safety Act of 2013" amended the Federal Safe Drinking Water Act. The BSDW amended the Nevada Administrative Code (NAC) effective December 22, 2014, to reflect the new Federal definition of lead-free that became effective January 4, 2014. Public Water System compliance with the new definition of lead-free in NAC 445A.66085 is required.

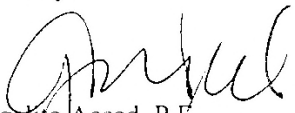
The Revised Total Coliform Rule requires public water system operators and managers to know when they have triggered a Treatment Technique Level 1 Assessment due to coliform positive detects. A fact sheet on the Level 1 Assessment Process and the Level 1 Assessment form required by BSDW may be found at <https://ndep.nv.gov/water/drinking-water/forms>. In addition, most regulations, guidance documents, and forms are available via Internet on the Bureau's website. Please link to <https://ndep.nv.gov/water/drinking-water> for further information.



Additional information and guidance is available on the EPA's Office of Ground Water and Drinking Water web site ([www.epa.gov/safewater](http://www.epa.gov/safewater)) or at the Safe Drinking Water hotline (1-800-426-4791).

If you have any questions, please contact me at (702) 668-3930. Thank you for your time and cooperation.

Sincerely,

  
Angelo Accad, P.E.  
Bureau of Safe Drinking Water  
[aaccad@ndep.nv.gov](mailto:aaccad@ndep.nv.gov)

ec: Alicia Auch, P.E., PWS Compliance Branch Supervisor, BSDW  
Bill Coates, GBWC, [Bill.Coates@greatbasinwaterco.com](mailto:Bill.Coates@greatbasinwaterco.com)  
Jeffrey Hartz, GBWC, [Jeff.hartz@greatbasinwaterco.com](mailto:Jeff.hartz@greatbasinwaterco.com)

cc: File

***Great Basin Water Company – Spring Creek Division (Volume III)***

Tank Inspection Reports

---

---

**Inspection Report for  
Great Basin Water Company  
Reno, NV**



East Side

West Side



North Side

South Side

**Spring Creek  
250KG Steel On-Grade  
Site 200 Twin Tank A**

**Date Completed: May 18, 2019**

**Commercial Dive Team:**

**Diver – James Strickland  
Dive Controller – Cory Repasi  
Tender – Nico LeBlanc**

## Scope of Work:

Our team completed sediment removal using underwater vacuum equipment. Sediment depths, ranging from 3 to 6 inches (clay, manganese & iron), were removed from the 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 base of the tank was found in good condition.
3. The wall was found in excellent condition.
4. The overflow was found in excellent condition and is directly connected to the storm drain.
5. The manways were found secure and in excellent condition.
6. The water level indicator marker board was found in good condition but there is no marker or cable present.
7. The ladder was found secure, OSHA approved and in excellent condition.
8. The roof was found in good condition with minor de-lamination and 0.01% uniform surface corrosion noted.
9. The hatch was found locked with a partial gasket present and in good condition with 33% uniform surface corrosion noted.
10. The vent was found in excellent condition.

### Interior Inspection

1. *Due to the murkiness of the water, as seen in the pictures of the interior wall and the float, underwater pictures are not available.*
2. The interior roof was found in good to fair condition with minor de-lamination, moderate staining and 33% uniform surface corrosion noted. There was also ambient light coming through.
3. The overflow was found in good condition with heavy staining and 16% uniform surface corrosion noted.
4. The interior wall was found in fair to poor condition with heavy de-lamination, 33% uniform surface corrosion and 50% rust noduling noted.
5. The floor was found in fair to poor condition with heavy de-lamination, 33% uniform surface corrosion and 50% rust noduling noted.
6. The manways were found in fair condition with heavy staining and 50% rust noduling noted.
7. The common inlet/outlet was found in fair condition with minor de-lamination, heavy staining, 0.1% uniform surface corrosion and 10% rust noduling noted.
8. The float was found in poor condition but the cables and the guidelines are not attached.
9. The support column was found secure and in fair condition with heavy staining, 3% uniform surface corrosion and 33% rust noduling noted.

## Recommendations:

1. Install a new water level marker, new cables and float.
2. Schedule a blast and recoat of the interior as soon as budgets will allow. If, within 3 years, the recoating has not been completed, schedule a follow-up clean and inspect as recommended by the AWWA.

### 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



<b>Foundation Condition</b>	
<p>Foundation Exposed? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Anchor Bolts Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Corrosion on Anchor Bolts Present? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Anchor Bolts Loose? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Cracking Noted In Foundation? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Spalling Noted? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p> <p>Summary: The base of the tank was found in good condition.</p>	
<b>Wall Panel Condition</b>	
<p>Coating Condition: Excellent</p> <p>Seams/Welds Condition: Excellent</p> <p>Corrosion Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	<p>Dents Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Holes Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Signs Of Leaking? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Summary: The wall was found in excellent condition.</p>
	

### Overflow Structure Condition

Coating Condition: Excellent  
 Seams/Welds Condition: Excellent  
 Stand Off Supports Condition: Excellent  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

Summary: The overflow was found in excellent condition and is directly connected to the storm drain.

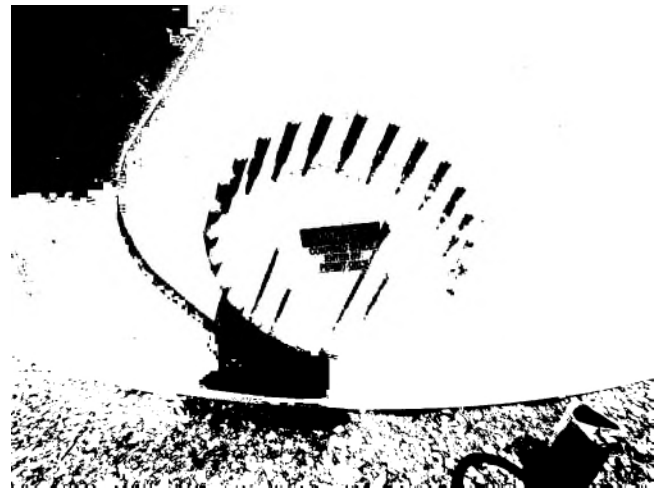


### Manway Condition

Coating Condition: Both Excellent  
 Weld/Seam Condition: Both Excellent  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manways were found secure and in excellent condition.

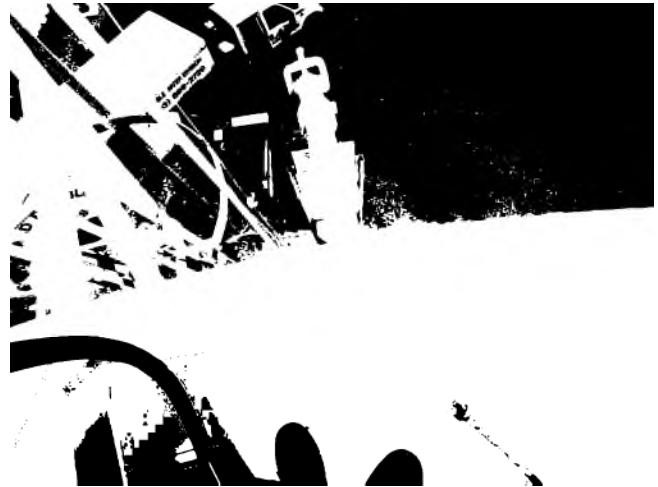
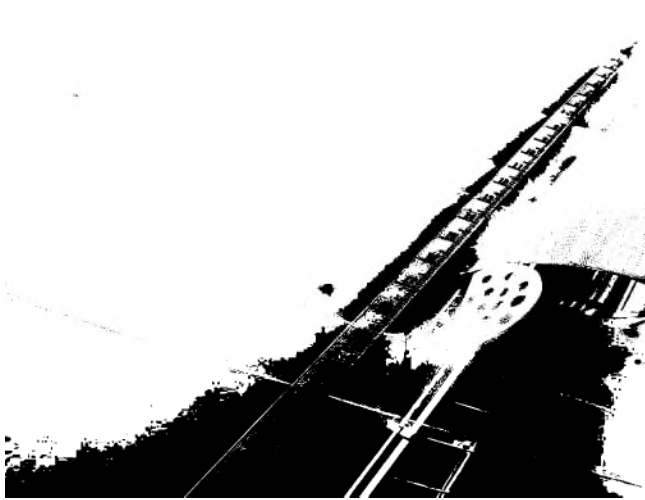


### Water Level Indicator Condition

Marker Condition: N/A  
 Attached & Accurate? Y  N   
 Marker Board Condition: Good  
 Is the level reading visible? Y  N   
 Pulley Condition: N/A  
 Attached Properly? Y  N   
 Cable Condition: N/A  
 Attached Properly? Y  N

Hardware Condition: N/A  
 Corrosion Present? Y  N

Summary: The water level indicator marker board was found in good condition but there is no marker or cable present.



Pulley for marker

### Access Ladder Condition

Ladder Type: Steel welded  
 Is Ladder and Safety Climb OSHA Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Excellent  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Excellent

Seams/Welds Condition: Excellent  
 Stand Off Supports Condition: Excellent  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in excellent condition.



Top of safety cage

## Roof Condition

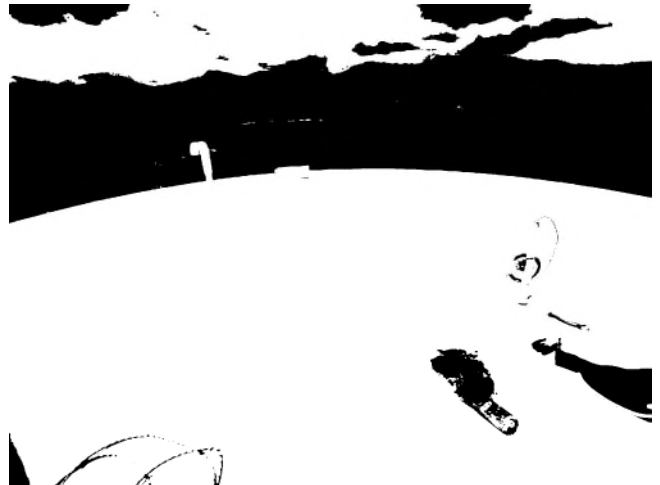
Roof Type: Pitched  
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Low Spots Present? Y  N   
 Holes in Roof? Y  N

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 minor de-lamination and 0.01% uniform surface corrosion noted.



De-lamination on roof



Cables on roof



Cables on roof



**Access Hatch Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 20 inch round  
 Riser Height: 4 inches Lid Height: 2 inches  
 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 locked with a partial gasket present and in good condition with 33% uniform surface corrosion noted.

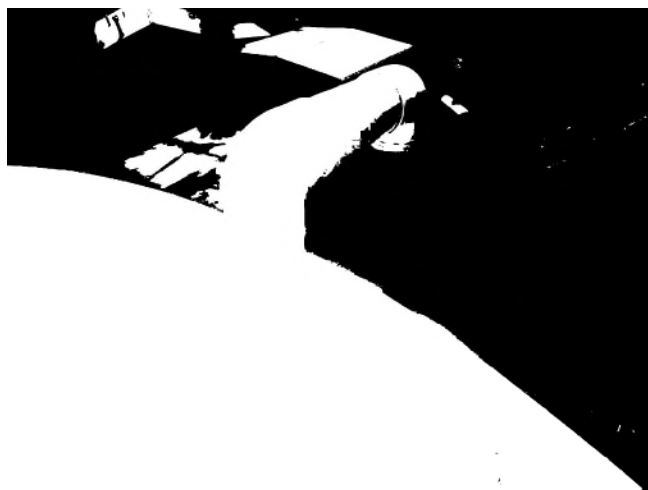


**Vent Condition**

Coating Condition: Good  
 Seams/Welds Condition: Excellent  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

#24 Mesh Screen in Place? Y  N   
 Condition: Good  
 All Openings Sealed? Y  N   
 Cap Condition: N/A


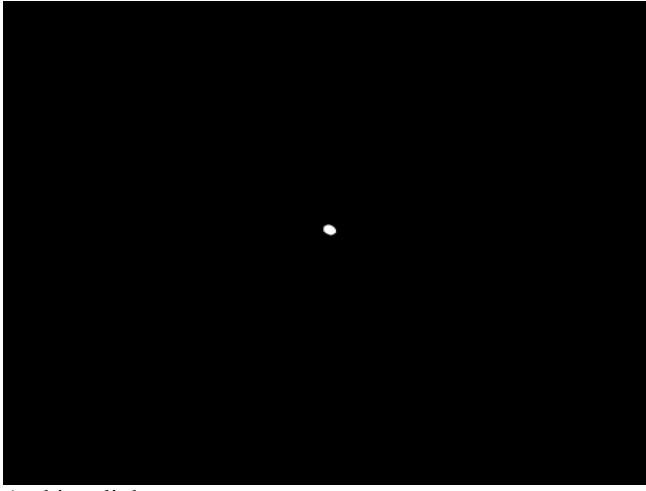
Summary: The vent was found in excellent condition.





**Inland Potable Services, Inc.**  
**Interior Inspection Report**



<b>Roof Condition</b>	
Coating Condition: Fair/Poor Welds/seam Condition: Good Corrosion Present On Panels? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Summary: The interior roof was found in good to fair condition with minor de-lamination, moderate staining and 33% uniform surface corrosion noted. There was also ambient light coming through.
	 Ambient light
<b>Overflow Condition</b>	
Overflow Location: 4 o'clock Coating Condition: Fair Weld/Seam Condition: Good Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Summary: The overflow was found in good condition with heavy staining and 16% uniform surface corrosion noted. <i>Due to the murkiness of the water, as seen in the pictures of the interior wall and the float, underwater pictures are not available.</i>

### Wall Panel Condition

Coating Condition: Poor  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in fair to poor condition with heavy de-lamination, 33% uniform surface corrosion and 50% rust noduling noted.

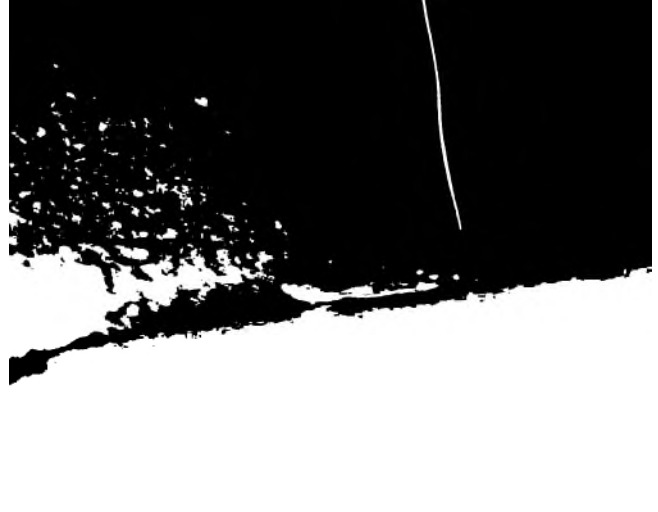


<b>Floor Condition</b>	
Coating Condition: Poor Welds/seam Condition: Good Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Sediment Depth: 3-6 inches Any irregularities or structural deficiencies? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Summary: The floor was found in fair to poor condition with heavy de-lamination, 33% uniform surface corrosion and 50% rust noduling noted. <i>Due to the murkiness of the water, as seen in the pictures of the interior wall and the float, underwater pictures are not available.</i>
<b>Manway Condition</b>	
Manway Location(s): 5:30 o'clock & 11 o'clock Coating Condition: Both Fair/Poor Weld/Seam Condition: Both Fair Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Summary: The manways were found in fair condition with heavy staining and 50% rust noduling noted. <i>Due to the murkiness of the water, as seen in the pictures of the interior wall and the float, underwater pictures are not available.</i>
<b>Inlet and Outlet Condition</b>	
Common Inlet/Outlet? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Location: 7 o'clock If Separate: Outlet Location: N/A Inlet Location: N/A Coating Condition: Fair Weld/Seam Condition: Good Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  Summary: The common inlet/outlet was found in fair condition with minor de-lamination, heavy staining, 0.1% uniform surface corrosion and 10% rust noduling noted. <i>Due to the murkiness of the water, as seen in the pictures of the interior wall and the float, underwater pictures are not available.</i>

**Float Condition**

Float Location: 12:05 o'clock  
Guidelines Condition: Poor  
Attached Properly? Y  N   
Cable Condition: Poor  
Attached Properly? Y  N   
Hardware Condition: Poor  
Corrosion Present? Y  N   
Float Condition: Fair  
Sealed? Y  N

Summary: The float was found in poor condition but the cables and the guidelines are not attached.



**Support Column Condition**

Number Of Columns: 1  
Coating Condition: Fair  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The support column was found secure and in fair condition with heavy staining, 3% uniform surface corrosion and 33% rust noduling noted.



**Tank Layout**

There is 1 support column in the tank.

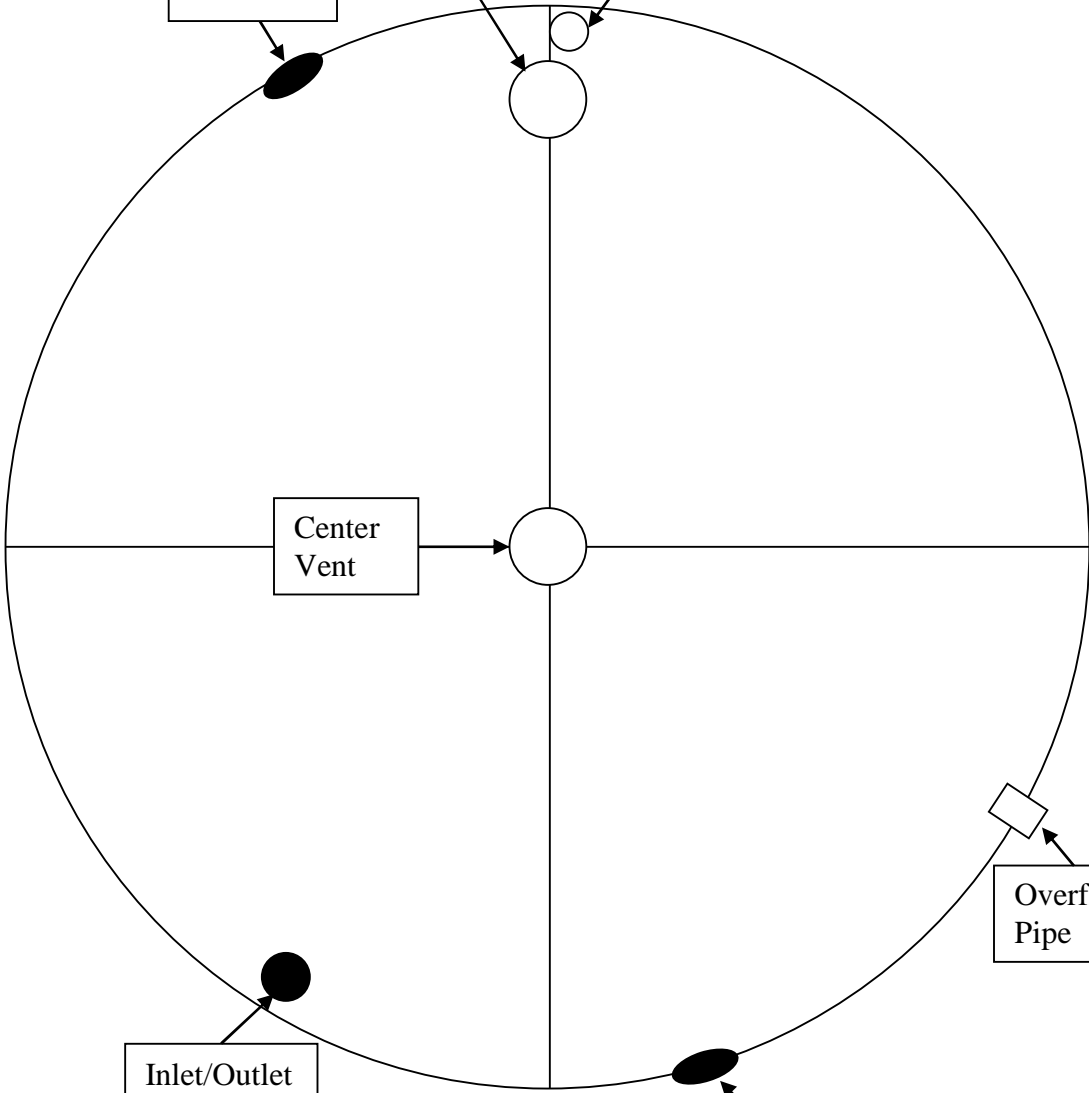
Quadrant #4

Quadrant #1

Manway

Access Hatch

Float



Inlet/Outlet

Overflow Pipe

Manway

Quadrant #3

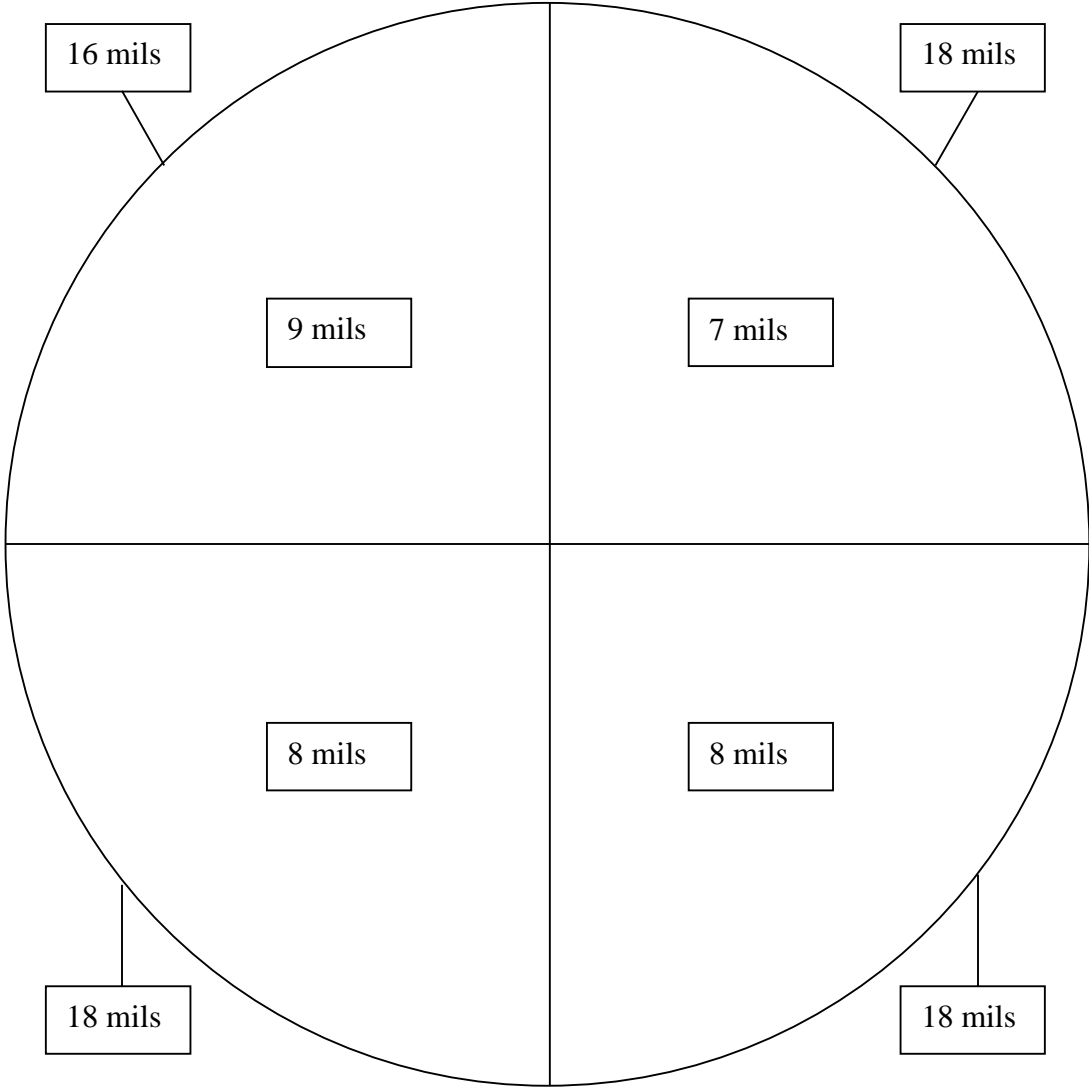
Quadrant #2

**Tank Layout**

Floor and Wall Ultrasonic Measurements

Quadrant #4

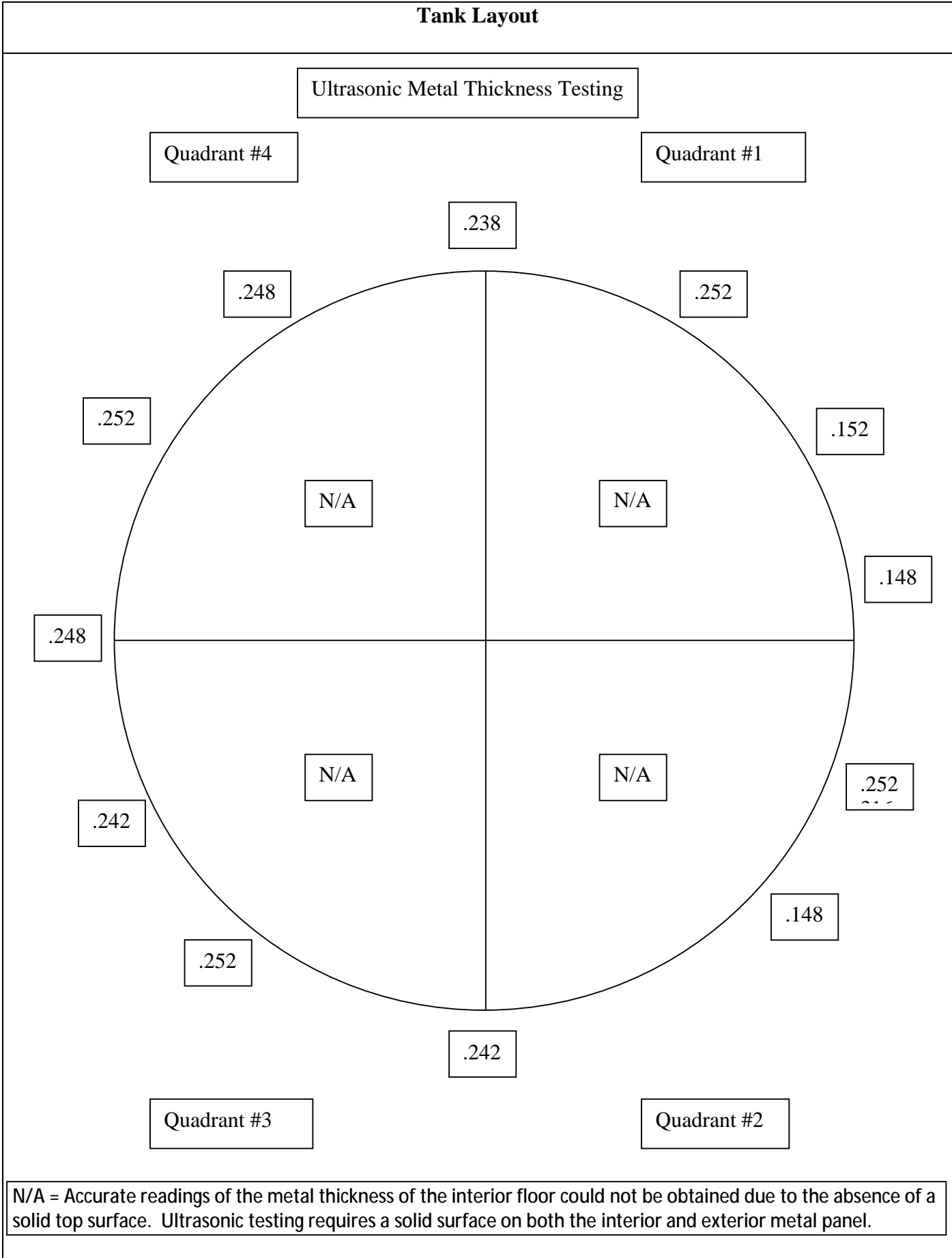
Quadrant #1



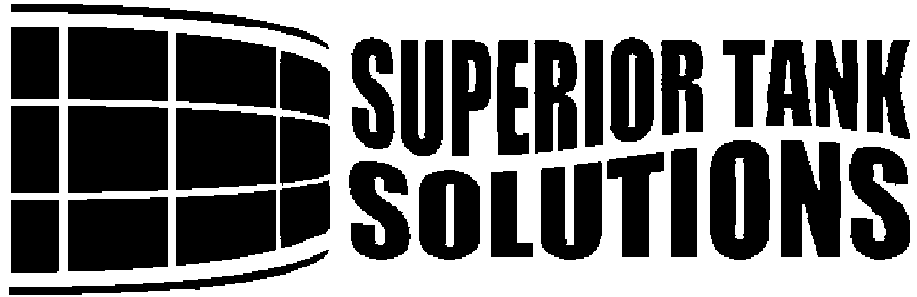
Quadrant #3

Quadrant #2

### Tank Layout

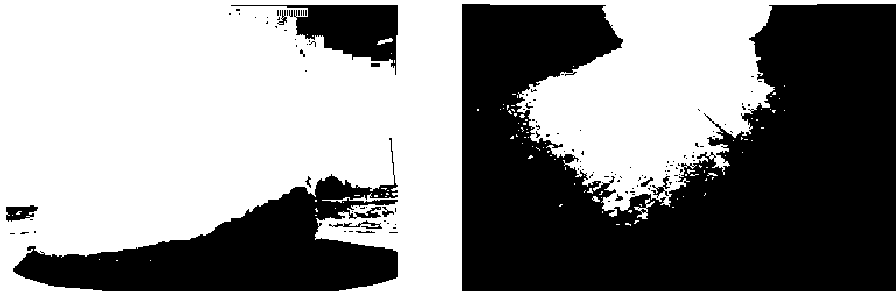






# General Tank Assessment, Floor Inspection and UT Report

Spring Creek, NV – Great Basin Water Company



**SPRING CREEK – TWIN TANK A**  
**250,000 GALLON GST**

Date: January 25<sup>th</sup>, 2023

Christopher Magenot

(928)274-9278

[CMagenot@SuperiorTankSolutions.com](mailto:CMagenot@SuperiorTankSolutions.com)

# SUMMARY ASSESSMENT REPORT

SPRING CREEK, NV – GREAT BASIN WATER COMPANY

## ASSESSMENT INTRODUCTION

Superior Tank Solutions, Inc. is conducting a General Conditions Assessment and a detailed Floor Inspection with UT Testing at the customer's request. This inspection is in response to a recently discovered leak found coming from Spring Creek - Twin Tank A. The purpose of the assessment is to determine the condition of the tank floor related to the extent of corrosion. Failure analysis of floor cracking and UT testing identifying the severity of degradation. While on site STS also performed a routine basic visual assessment of the tank as it pertains to coatings as well as the safety, structural, sanitary, and security of the vessel. Regulatory compliancy assessments were conducted in accordance with sanitary (Department of Environmental Quality), safety requirements (Federal OSHA 29 CFR 1910 & 1926 and OSHA) and security guidelines (US Dept of Homeland Security & AWWA Security Recommendations).

<u>TANK INFORMATION</u>	
Assessment and Testing Date	January 25 <sup>th</sup> , 2023
Tank Location	Spring Creek, NV – Twin Tank A
Year Built	Unknown
Tank Size (gallons)	250,000 Gallons
Dimensions (feet)	Approximately 36' Dia x 26'H
Tank Style	Welded Steel Ground Storage Tank

# GENERAL TANK ASSESSMENT

---

Superior Tank Solutions conducted a general inspection of Spring Creek **Twin Tank A**. Our general assessment is visual in nature and provides recommendations in reference to the following criteria:

- Interior and Exterior Coating Systems (AWWA and State)
- Structural Condition (AWWA)
- Safety and Security Regulatory Compliance (OSHA, State and Federal)
- Sanitary and Water Quality Deficiencies (AWWA, EPA, and State)

## INSPECTION DETAILS

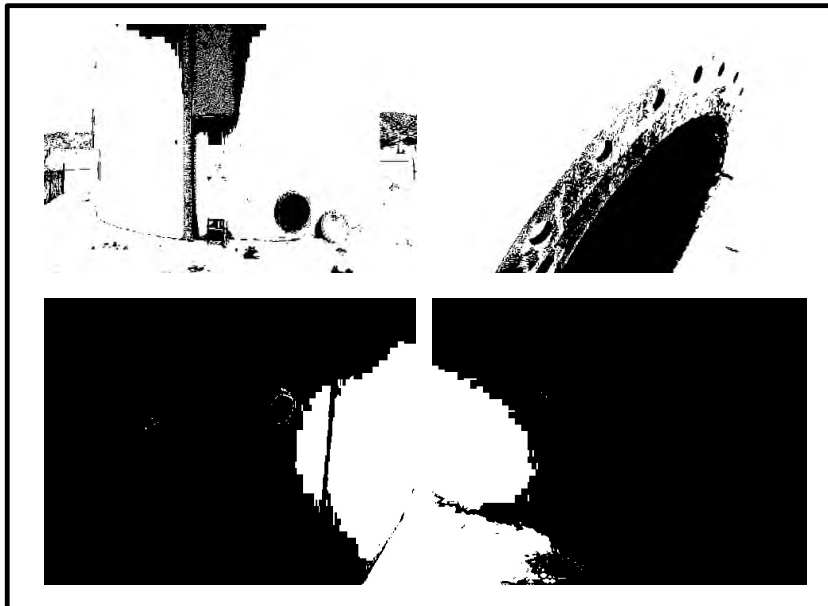
---

### **EXTERIOR COATINGS:**

Exterior coating appears to be an overcoat, in fair condition with maintained gloss. Coating appears to have been applied over poor surface preparation and has some aesthetic deficiencies. Several spots of mechanical damage in the coating were identified on the lower ring and a few large areas of delamination were noted on the upper shell just below the roof.

The inspection was visual in nature and only performed from the ground. STS was unable to climb the tank and inspect the roof or the foundation due to snow. A previous inspection in April of 2019 identified coating defects including flaking, orange peel, mud cracking, overspray, adhesion issues, and complete failure in areas of ponding. It is unknown if repairs were performed since 2019.

### *Example Exterior Photos*



**INTERIOR COATINGS:**

The interior coatings appear to be a thick build coal tar epoxy coating system. Interior coatings have failed on the roof, shell, and floor and must be replaced.

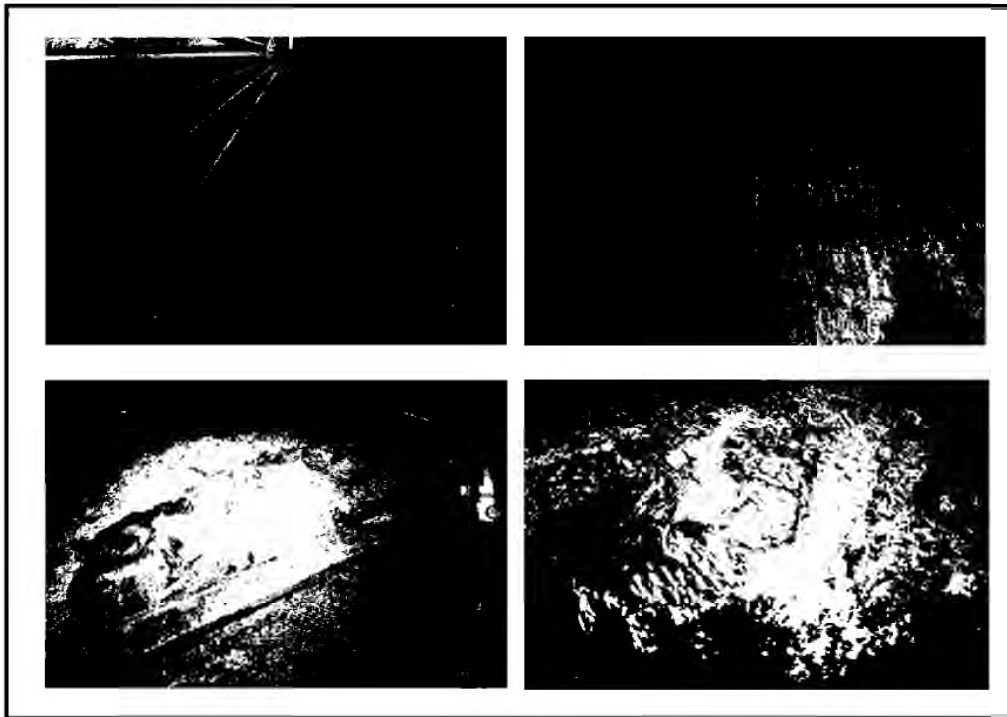
**Roof:** Interior coatings have completely failed. Corrosion is general and non-aggressive.

**Shell:** Interior shell coatings have failed, and very large rust nodules have collected on the tank shell causing mass pitting.

**Floor:** Interior Coatings have failed causing widespread corrosion, penetrations, mass pitting.

- *STS recommends replacing interior coatings with AWWA and NSF600 compliant 100% solids epoxy system.*

Example Interior Photos



### **STRUCTURE:**

STS was unable to perform any work at heights due to snow and ice on ladder and roof. All structural observation were made from the ground.

The interior coatings have completely failed. Interior shell coatings have failed, and very large rust nodules have collected on the tank shell causing mass pitting. Interior coatings have failed on the floor causing widespread corrosion, penetrations, mass pitting.

At least one of the rafters is distorted and there is active corrosion at the bolted connection points. There is no hardware securing several of the rafters to the dollar plate, either the hardware was never installed, or the hardware failed from corrosion and stress. Additionally, the tank was not designed with rafter straps to prevent twisting and distortion.

***Additional information on the floor can be found on page 7 under the - "Interior Floor Inspection Report"***

- ***It is recommended to replace any deformed rafters, replace the bolted connection hardware or weld the connection points, and to install rafter straps.***
- ***Perform floor repairs as identified under the floor Inspection section of this report.***

### **APPURTENANCES:**

- **Interior Ladder** - No interior ladder

***Recommend adding FRP ladder (Fiberglass Reinforced Plastic) with a stainless-steel fall arrest system per OSHA.***

- **Roof Railing** - No roof railing

***Recommend Installing roof railing and self-closing gate at the top of roof landing per OSHA.***

- **Tie off Points** - There are currently no fall protection systems in place for climbing or anchor points when working at heights.

***Recommend adding two anchor points on either side of the roof vent and roof hatch.***

- **Access Ladder** - There is no fall protection system in place for safe roof access.

***Recommend installing flex cable fall protection device.***

- **Overflow** – No air gap on the exterior.

*Recommend installing a NDEP compliant air gap in overflow.*

- **Foundation**- The foundation could not be inspected due to snow. A past inspection in 2019 found the tank to be sitting at or below grade. Action should be taken to facilitate airflow and drainage from beneath the tank.

- **Cathodic Protection** – No CP system in place.

*Recommend adding CP System to help mitigate future corrosion on tank interior.*

- **LLI** – The level indicator is nonfunctional. The interior float has become disconnected from target cable. Float guide wire is broken or missing. LLI decals cracked and faded. The enclosed pulley system is closed off with a PVC cap.

*Recommend replacing LLI decals and repairing guide and target cables.*

- **Manways** – The tank has (2) 24” multi-bolt manway in good condition.

*Manway size does not meet AWWA D100 requirements of 30” minimum.*

- **Roof Rafters** - One rafter bowed, bolts and corroded and missing at the rafter connection points. No rafter straps in place for seismic events.

*Recommend replacing rafter, weld rafters at connection points, add rafter straps.*

- **Roof Vent** – The roof could not be inspected due to snow. A past inspection in 2019 identified one gooseneck vent at the edge of the roof. At that time, the vent had an intact screen.

*Recommend installing one or more additional vents to reduce the risk of implosion or explosion and to help mitigate corrosion in the atmospheric zone.*

- **Roof Hatch** - The roof could not be inspected due to snow. A past inspection in 2019 identified one round roof hatch. The hatch was a flanged designed with a lock through one of the bolt holes.

*Recommend either installing a gasket and securely bolting the hatch or replacing the hatch with a standard shoebox design locking hatch.*

## RECOMMENDATIONS

---

- Address interior and exterior coating deficiencies as recommended.
- Add rafter straps.
- Replace any deformed rafters.
- Weld the rafter to dollar plate connection or install new hardware.
- Weld the rafter/ shell connection points or replace the hardware.
- Add confined space signage at openings large enough for a person to enter.
- Repair or replace LLI system.
- Install Galvanic CP system.
- Install internal weir box.
- Add air gap to the overflow.
- Add OSHA compliant anchor points on roof for fall protection.
- Add OSHA compliant roof railing with self-closing gate for added safety.
- Add fall protection system on exterior ladder.
- Add sample tap for water sampling.
- Install FRP ladder on interior with a fall arrest system.
- Install 30" OSHA compliant manway.
- Add additional vents to prevent tank damage and reduce corrosion.
- Replace the roof hatch with a compliant locking shoebox design hatch.
- Improve the foundation to provide airflow and drainage.

## GENERAL ASSESSMENT SUMMARY AND COMMENTS

---

I was unable to climb the tank for assessment due to snow and ice on roof and ladder. So the assessment is limited to what I can see in those areas from the ground. I do have photos from a previous assessment that shows some areas of paint failure on the roof. Not sure if those areas have been corrected or not. I did not comment on items that I could not see. There are numerous upgrades that must be performed to improve safety and bring the tank into regulatory compliance. Interior coatings have failed and must be replaced.

**End of General Assessment**

# FLOOR INSPECTION AND ULTRASONIC TESTING

---

## Overview:

Great Basin Water Company contacted Superior Tank Solutions in response to a significant leak discovered in Spring Creek **Twin Tank A**. The tank was drained and cleaned by Owner to identify the source of the leak. Upon draining and cleaning the tank the Owner discovered a 3–4-foot crack in the floor plate along with penetrations and apparent aggressive corrosion throughout. At the request of GBWC, Superior Tank Solutions was contacted to conduct an overall conditions assessment of tank interior. Findings and remedial recommendations will be provided in a narrative report with photos and supporting documents.

The tank floor was assessed through several different methods to identify the overall condition. The methods included identification of the existing penetrations, analysis of the weld failure at the leak source, extracting coupons from the floor to provide a visual for underside corrosion, and testing the floor with an ultrasound device to map overall floor plate thickness.

## FLOOR ASSESSMENT FINDINGS

---

### SUPPORTING DOCUMENTS AND INFORMATION:

- Photos of Floor Assessment
- Ultrasound Thickness Report

**Visually** - The tank floor was assessed visually from the surface for defects and deficiencies such as penetrations, pitting, cracking, and deformation. The goal of this process was to identify the location and frequency of deficiencies along with a determination of causation.

Approximately 200 spots on the floor were prepared with a grinder and flap disc to remove rust and coatings for UT testing. During the preparation process, it was discovered that the interior coatings have failed, resulting in widespread mass pitting is present across the tank bottom. Several areas of deep pits exceeding 50% metal loss were found. Two (2) penetrations were discovered: largest being 2". It is also obvious that the tank bottom was not constructed per AWWA standards. The floor plates do NOT overlap in several areas as is standard in tank bottom construction. Several floor plates are welded together using a butt joint instead of the typical lap joint required by code. It is STS' determination that the cause of the large crack in the floor is due to improper construction and poor welding. The conditions that lead to this particular failure in the floor are present in other areas of the tank bottom and will likely result in a similar failure in the future.

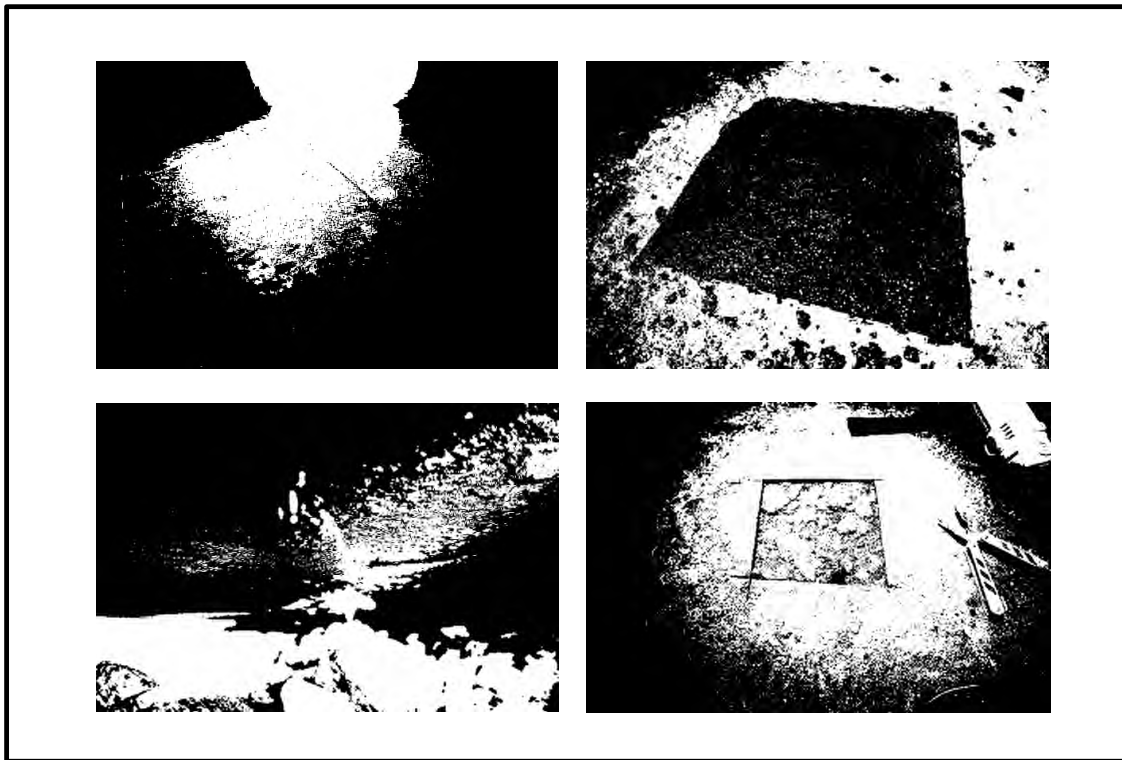


**Coupons** - Two coupons were cut out of the floor. The coupons were removed to aid in a visual assessment of the steel condition on the underside of the tank floor. The coupons were approximately 8" square and located:

1. Located at the point of weld failure and leak.
2. Located at an area of thin floor plate identified by UT Gauge. The coupons provided the determination that underside corrosion is present and active. However, it is STS' opinion that most of the metal loss is due to top side corrosion.


**Ultrasound Testing**- The tank floor was ultrasonically inspected. Over 50 locations were tested across the floor, with multiple readings at each location. This process involves testing small dime size spots on the floor with an ultrasound device facilitated by conductive gel. Due to the condition of the interior and extent of corrosion, the ultrasound testing benefits were limited in nature. The limitations of this testing method are primarily the size of the area being tested, difficulty to test irregular surfaces, and potential for dense corrosion and coatings to affect the results. The results yielded primarily good steel with occasional spots where thin steel was present.

**Example Interior Inspection Photos**



**ULTRASONIC THICKNESS GAUGE INFORMATION AND RESULTS**

<b>Ultrasound Metal Thickness Gauge</b>	Phase II – UTG-2900
<b>Low Thickness Reading</b>	.142
<b>High Thickness Reading</b>	.284
<b>Average Reading</b>	AVG .247

<b>Ultrasound Thickness Report</b>					
<b>Report Name:</b> Spring Creek - Twin Tank A		<b>Report Time:</b> 3:53 PM			
<b>Operator:</b> Superior Tank Solutions	<b>Test Time:</b> January 25, 2023				
<b>Data count:</b> 57	<b>Unit:</b> Inch	<b>Device:</b> Phase2 UTG-2900			
<b>UT Readings</b>					
[1]:0.258	[2]:0.272	[3]:0.274	[4]:0.245	[5]:0.208	[6]:0.248
[7]:0.199	[8]:0.251	[9]:0.249	[10]:0.265	[11]:0.279	[12]:0.278
[13]:0.276	[14]:0.237	[15]:0.226	[16]:0.211	[17]:0.211	[18]:0.270
[19]:0.252	[20]:0.254	[21]:0.234	[22]:0.251	[23]:0.262	[24]:0.273
[25]:0.276	[26]:0.193	[27]:0.209	[28]:0.240	[29]:0.230	[30]:0.272
[31]:0.270	[32]:0.248	[33]:0.269	[34]:0.250	[35]:0.246	[36]:0.248
[37]:0.264	[38]:0.263	[39]:0.269	[40]:0.243	[41]:0.283	[42]:0.269
[43]:0.270	[44]:0.246	[45]:0.276	[46]:0.255	[47]:0.252	[48]:0.272
[49]:0.240	[50]:0.267	[51]:0.259	[52]:0.174	[53]:0.178	[54]:0.142
[55]:0.284	[56]:0.278	[57]:0.204			

## FLOOR INSPECTION SUMMARY AND RECOMMENDATIONS

---

It is the professional opinion of Superior Tank Solutions that the floor should not be repaired, but rather a new floor should be installed. This tank was obviously deconstructed at some point, moved, and reconstructed at your Twin Tanks site. During this process the tank floor was rebuilt with a “patchwork style” plate layout, improper joints and improper welds. It is STS’ opinion that these issues, in combination with the present level of corrosion will result in similar floor failures in the future.

STS recommends installing a new floor. A new floor will fix the current floor issues and provide assurance that no more issues will arise. The new floor will have a full warranty and in combination with the new coating system provide years of uninterrupted service.

**End of Floor Inspection**

PHOTO LOG



**OVERVIEW**

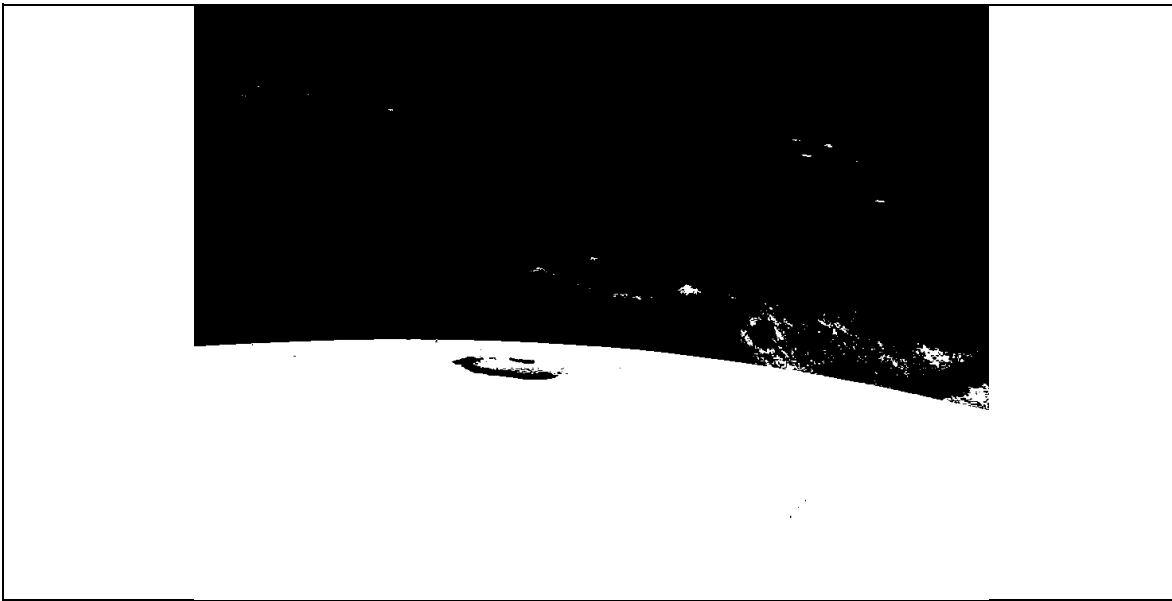
Exterior Overview 4-23-19



**Exterior  
Roof**

Exterior coatings failing and rusting 4-23-19

Superior Tank Solutions|



<b>Exterior Roof</b>	Paint failure 4-23-19
----------------------	-----------------------



<b>Exterior Shell</b>	Overview 1-25-2023
-----------------------	--------------------



<b>Exterior</b>	LLI target disconnected / No safety climb device on exterior ladder No guardrail / No self-closing gate
-----------------	--

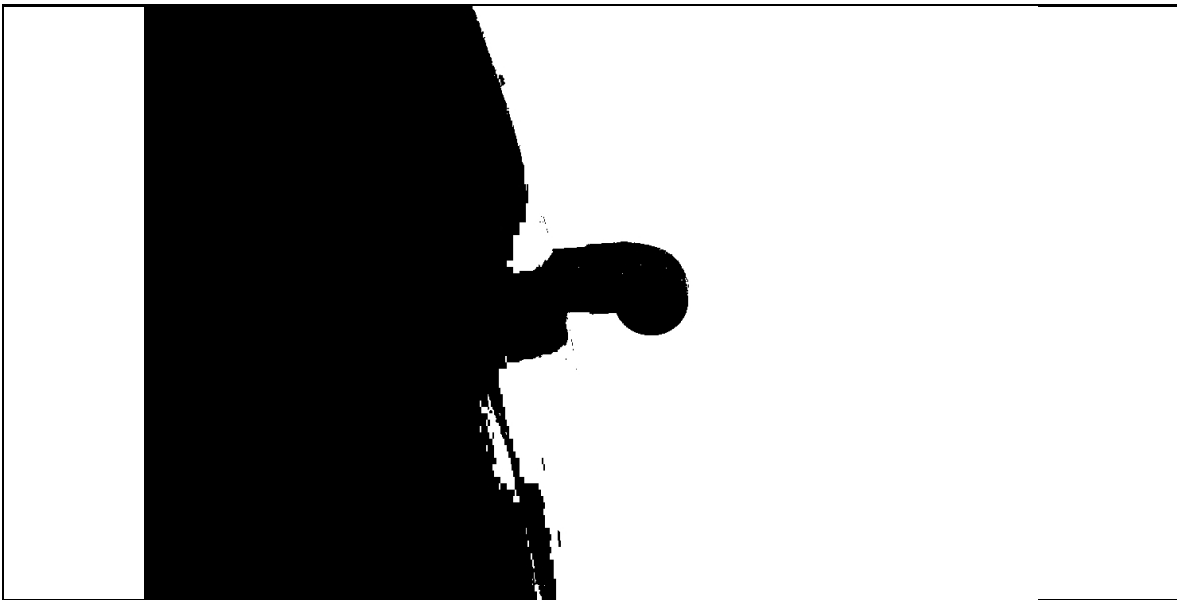


<b>Exterior Shell</b>	Mechanical Damage
-----------------------	-------------------



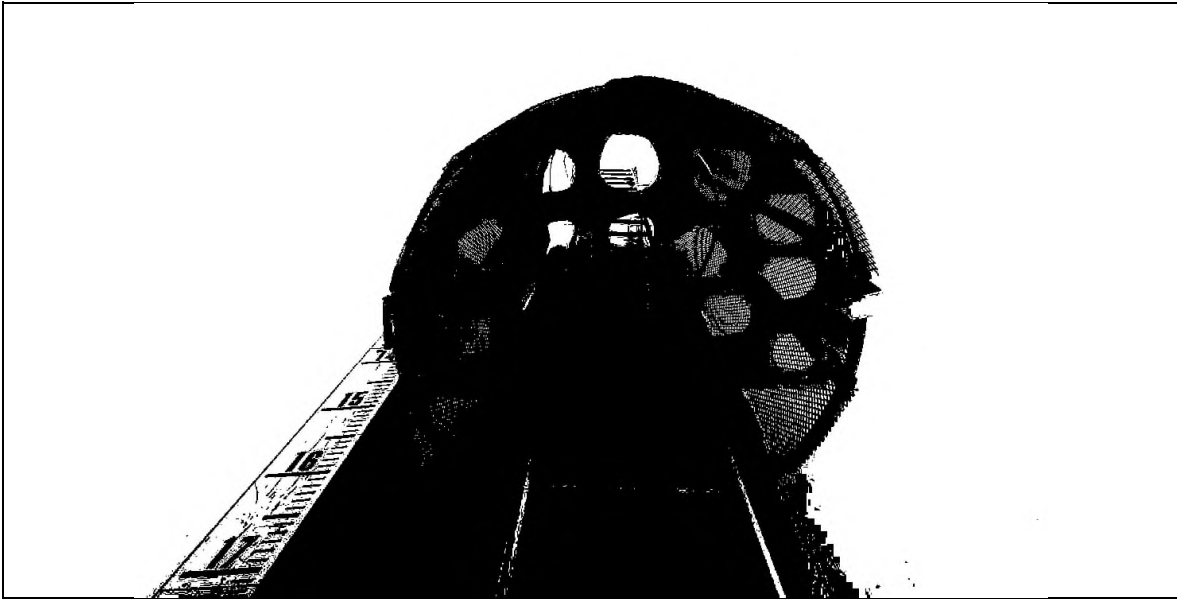
**Exterior  
Shell**

Old brackets



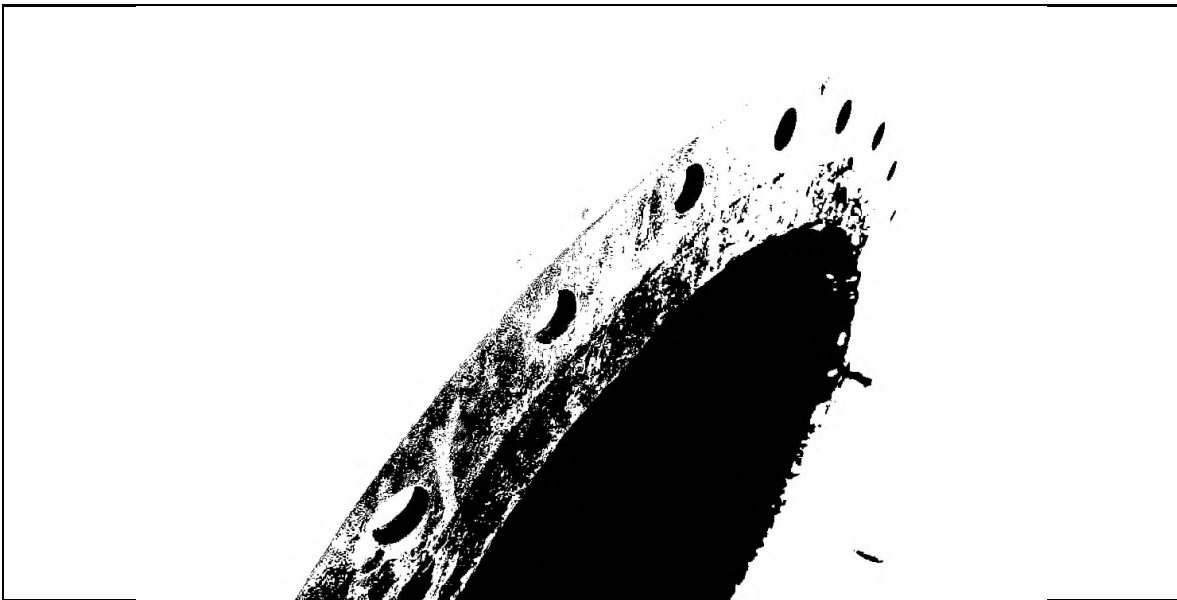
**Exterior  
Shell**

Plate buckling at weld cross section



**Exterior  
Ladder**

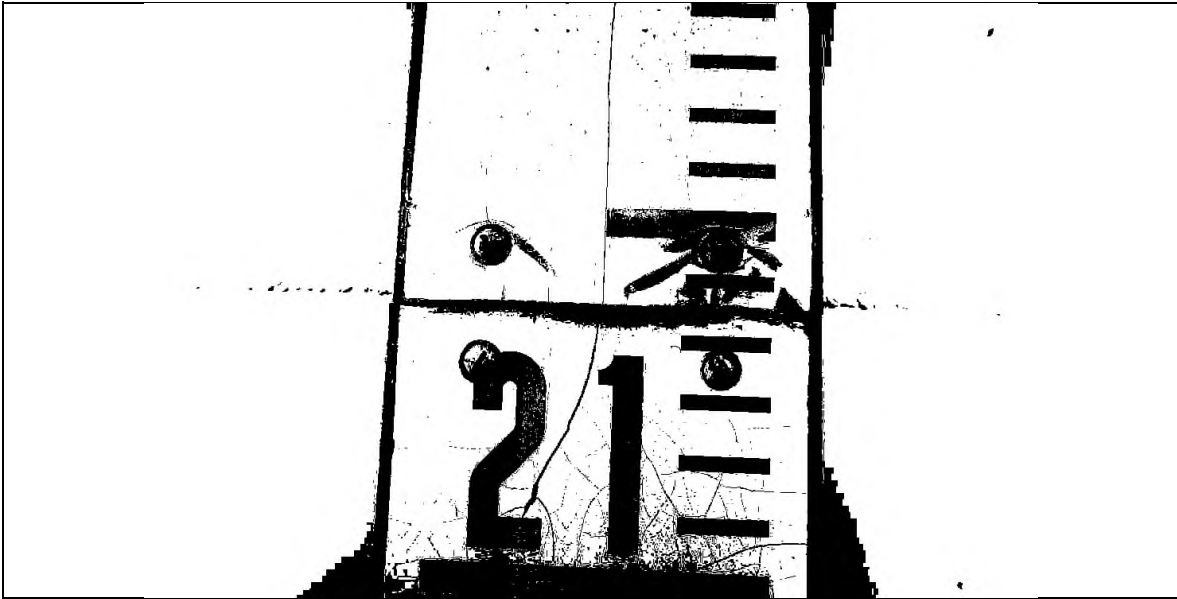
Overview



**Manway**

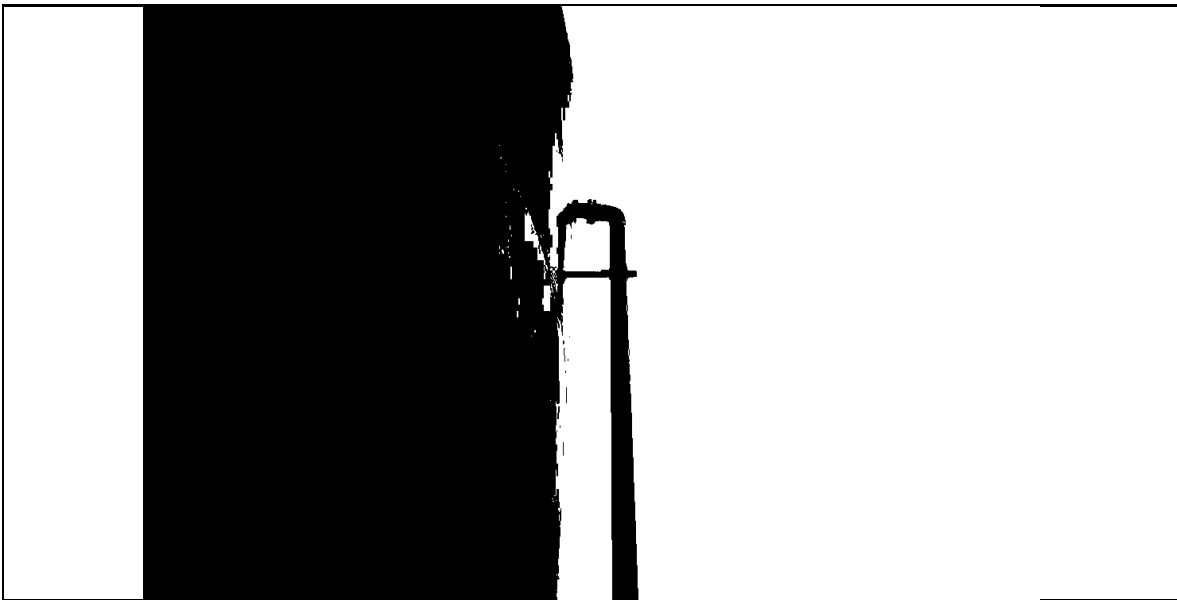
Paint chipping around the edges





**Liquid Level Indicator**

Locking gate has rust developing.



**Overflow**

No compliant air gap



**Interior  
Roof**

Overview / Coating failure



**Interior  
Shell**

Overview / Coating failure



<b>Interior</b>	Overview / Coating failure
-----------------	----------------------------



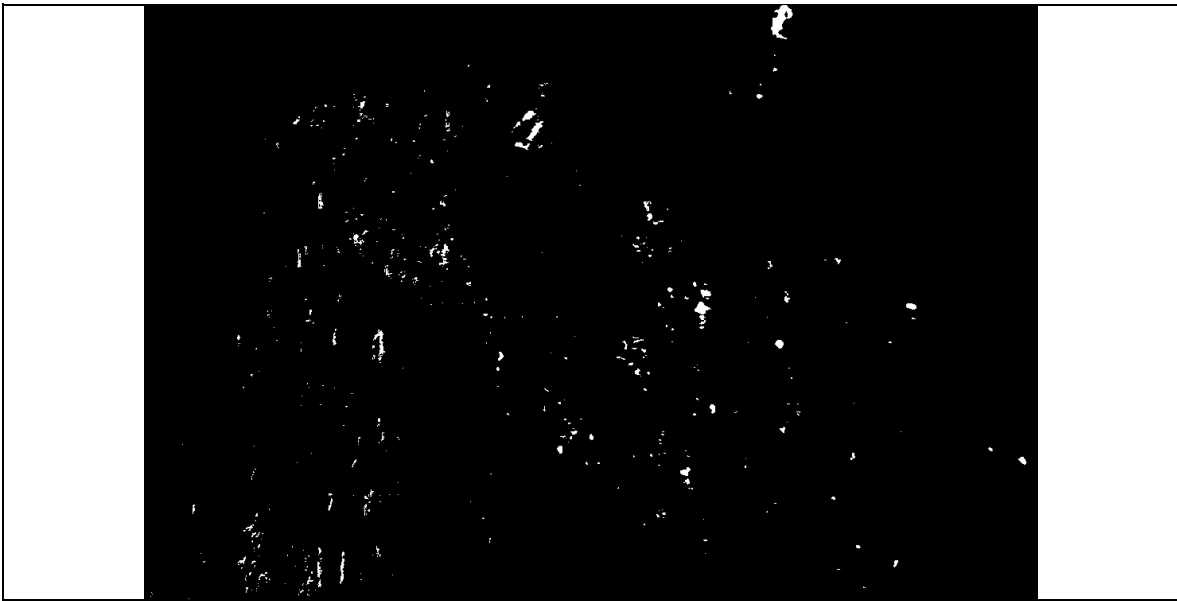
<b>LLI</b>	Float disconnected
------------	--------------------



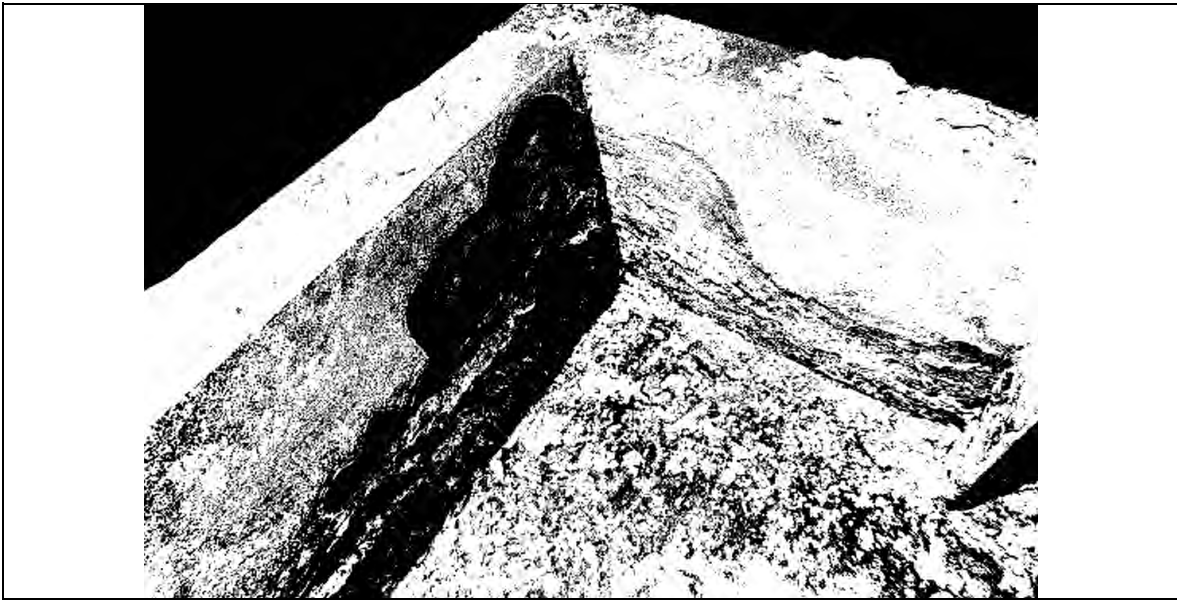
<b>Rafters</b>	Bowed rafter
----------------	--------------



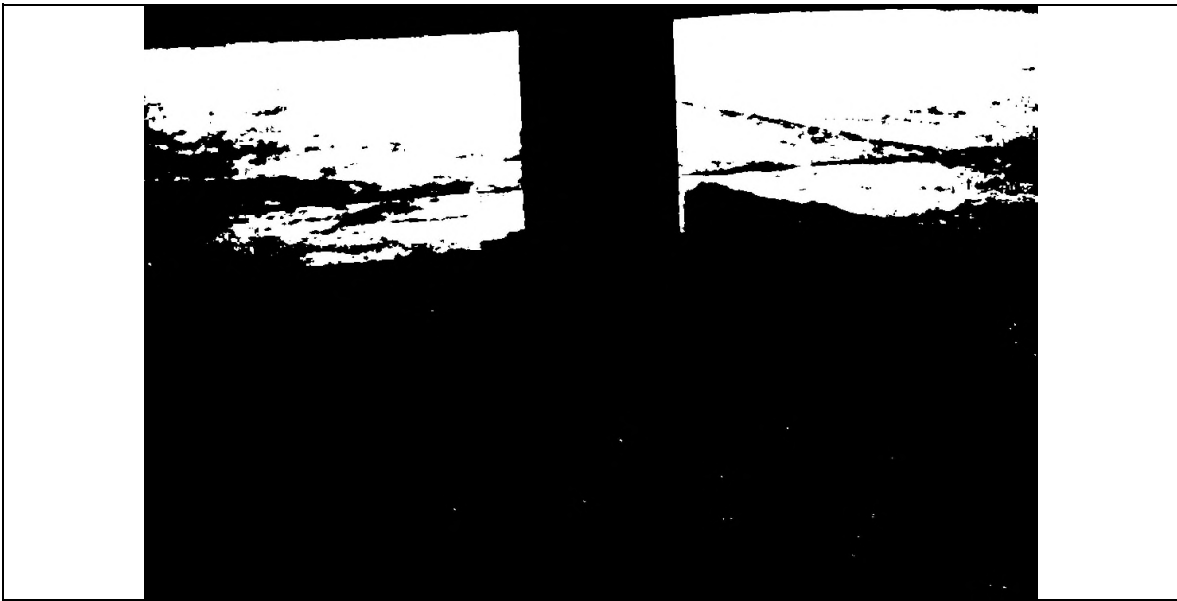
<b>Dollar Plate</b>	Missing corroded hardware
---------------------	---------------------------



<b>Interior</b>	Rust Nodules
-----------------	--------------

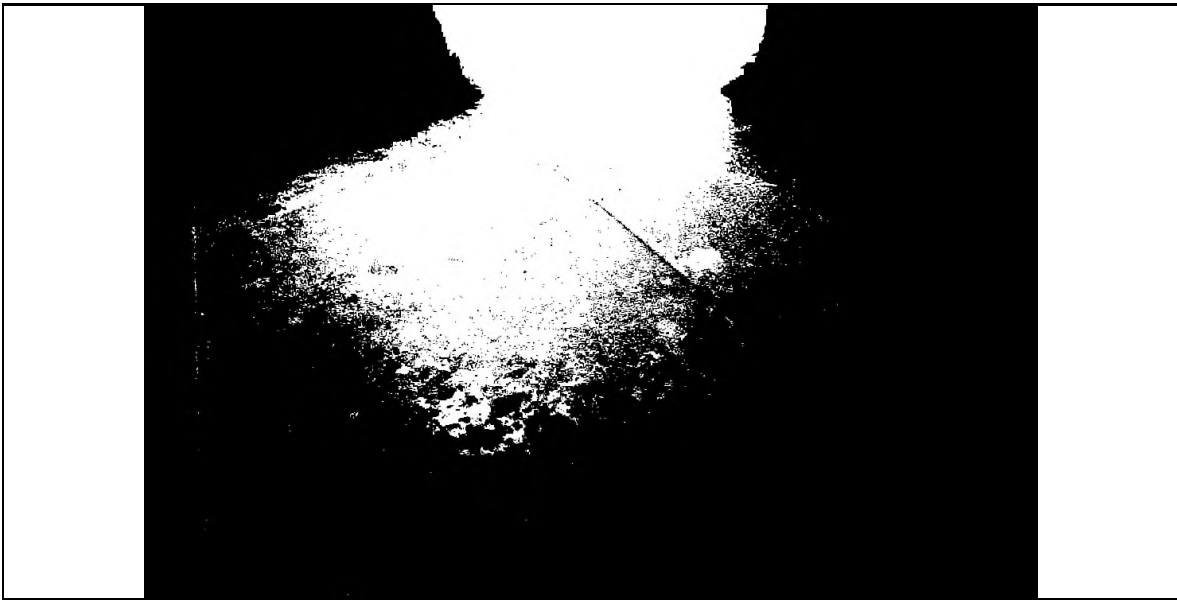


<b>Center Column</b>	Overview
----------------------	----------



**Center  
Column**

Overview / Corrosion



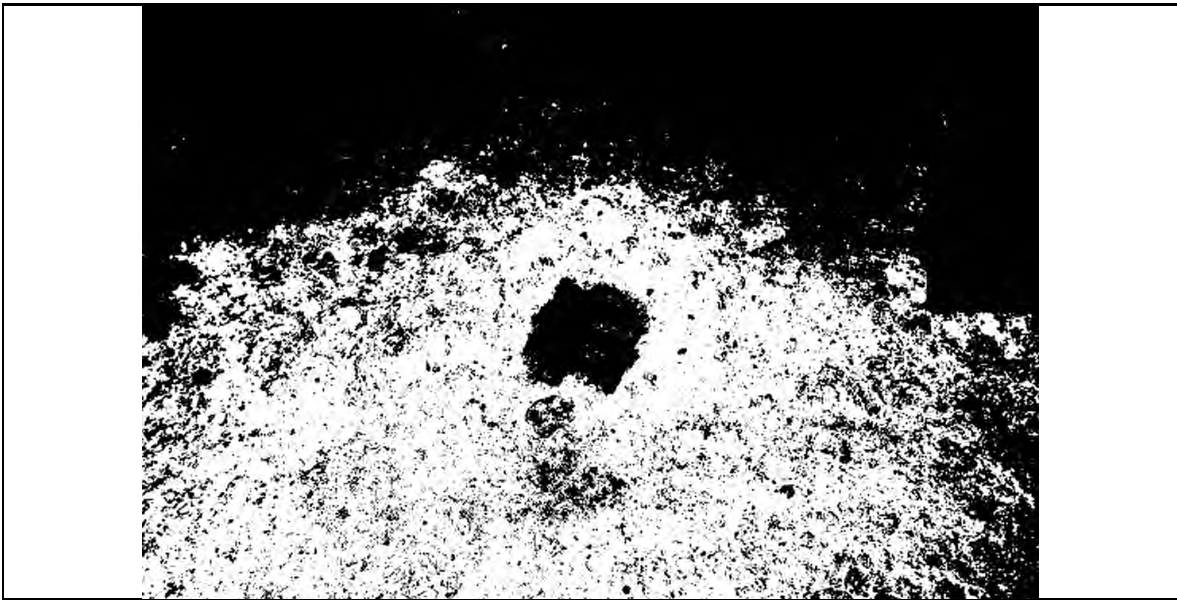
**UT Testing**

Floor prep



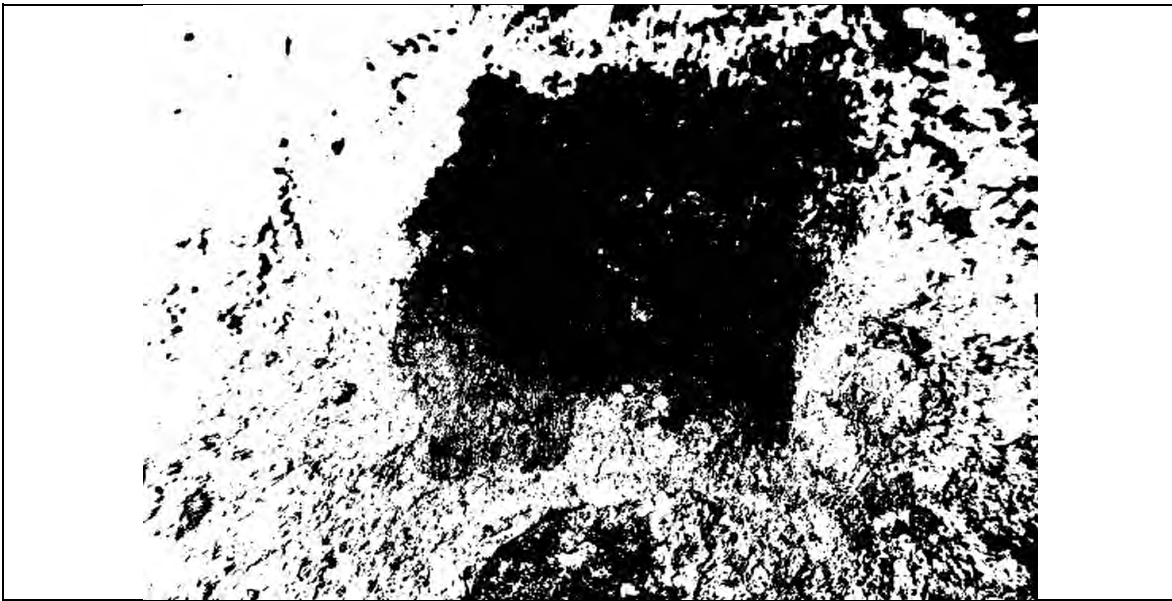
**UT Testing**

Floor prep



**UT Testing**

Test spot



**UT Testing**

Reading .284

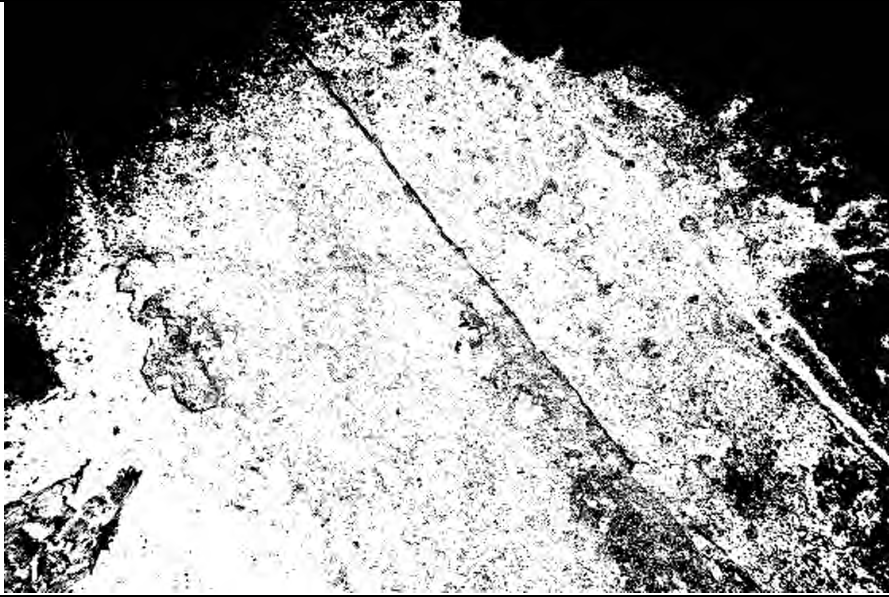


**UT Testing**

Reading .199

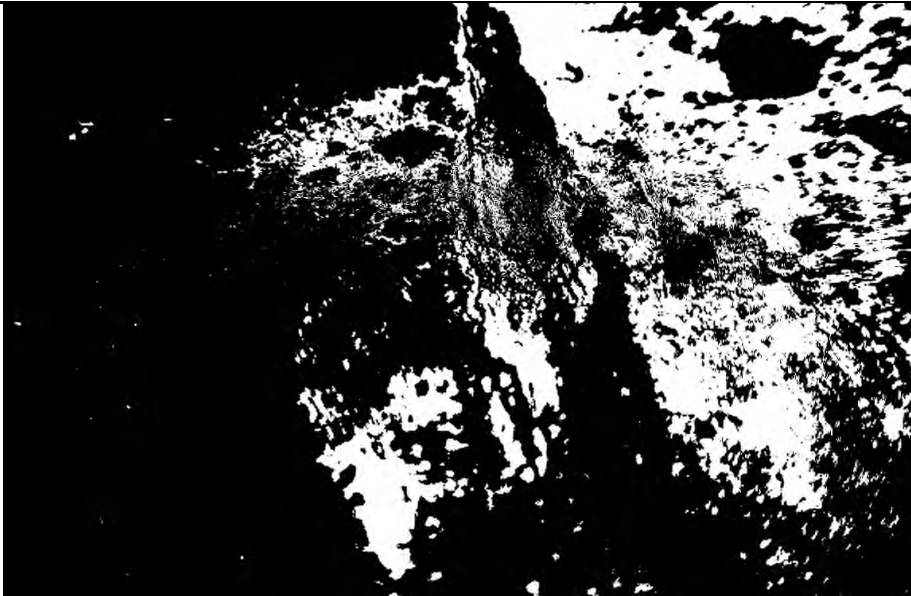
Superior Tank Solutions |





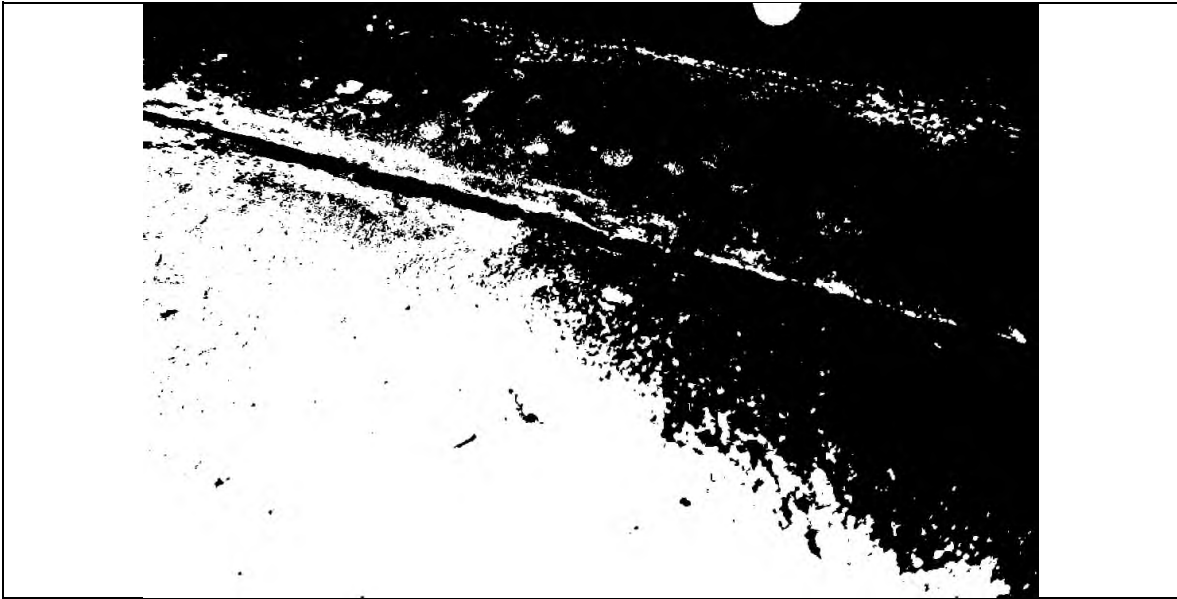
**Interior Floor**

Weld broken at seam and Leaking- Not a Lap weld - 48" long crack on weld seam.



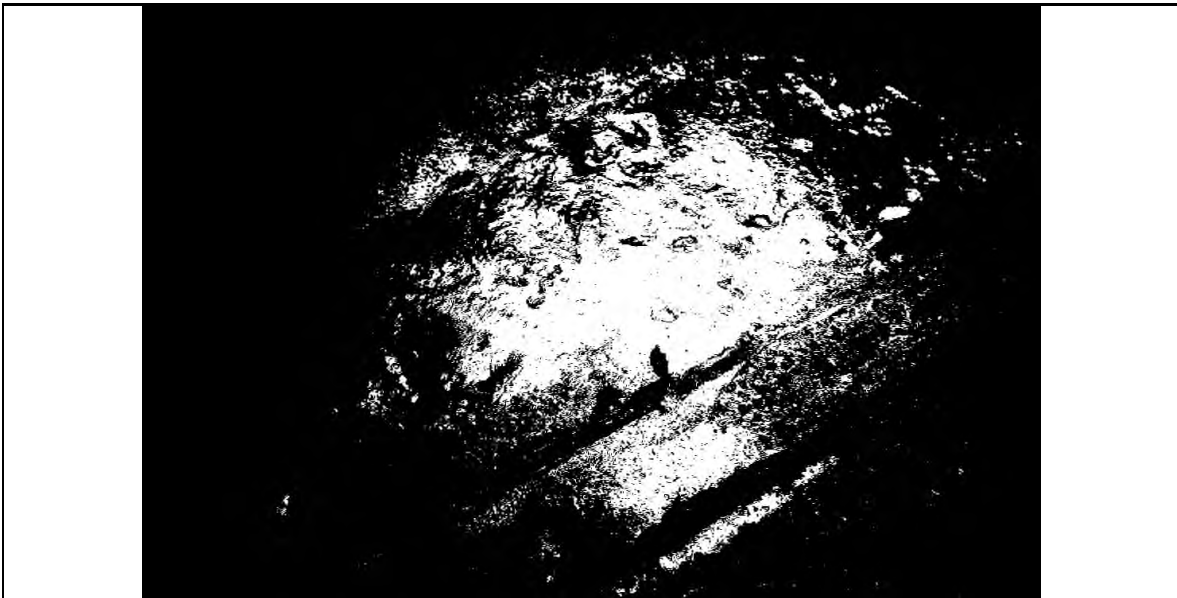
**Leak**

Crack/Leak - Butt Joint



**Interior Floor**

Crack / Butt joint instead of lap joint



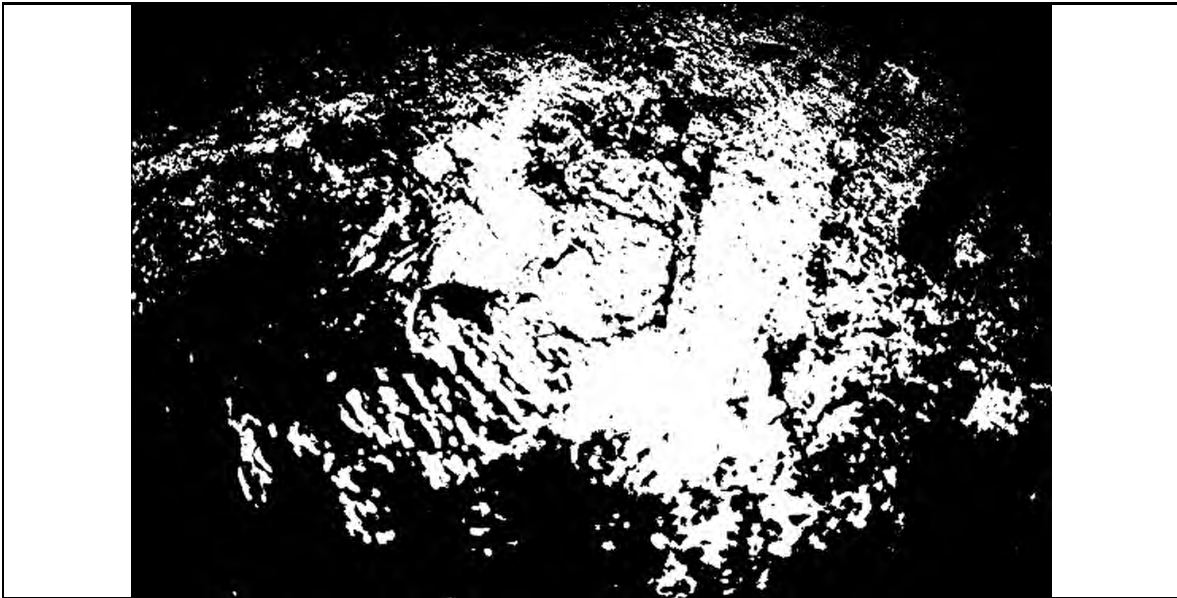
**Interior Floor**

Corrosion and Pitting / Damaged coatings



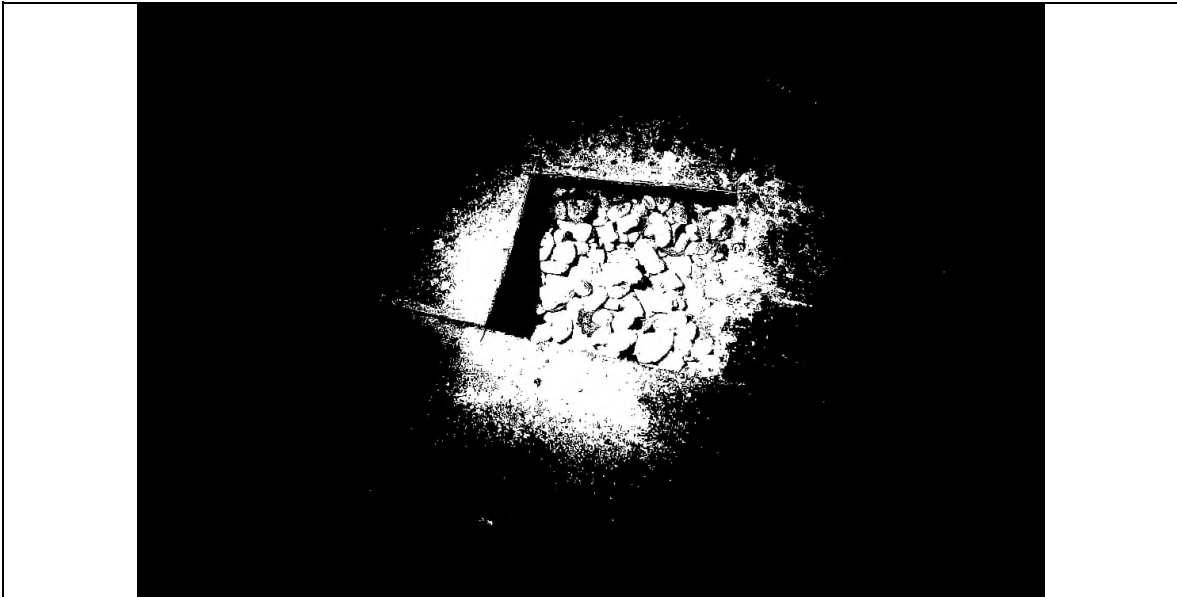
**Interior  
Floor**

Overview – General pitting



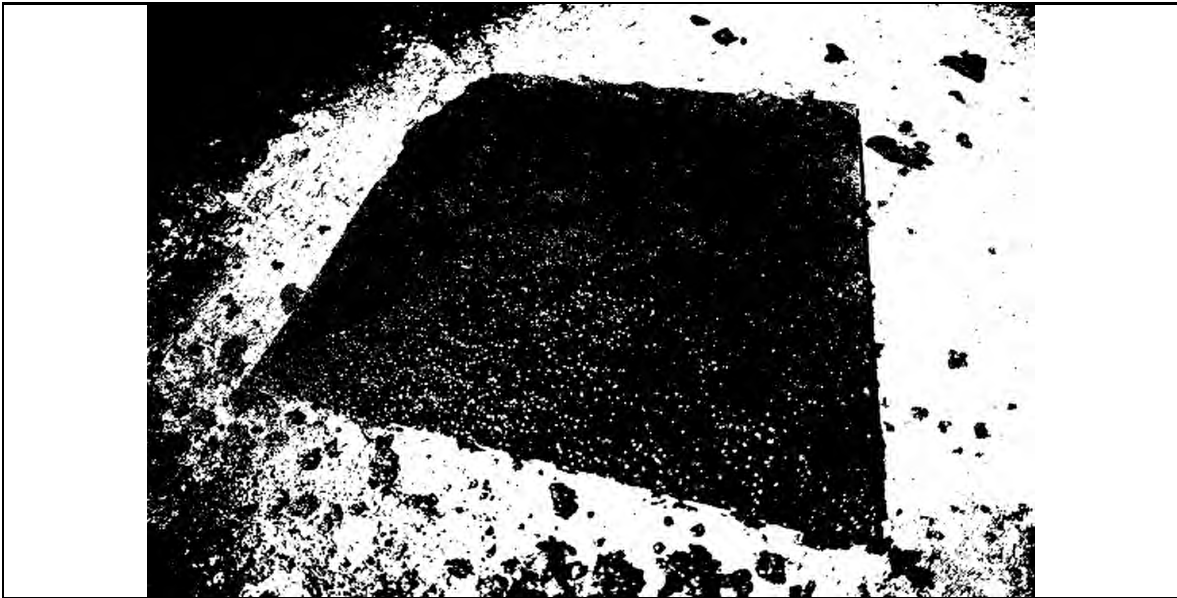
**Interior  
Floor**

Extensive Pitting – 4" long & 50% loss



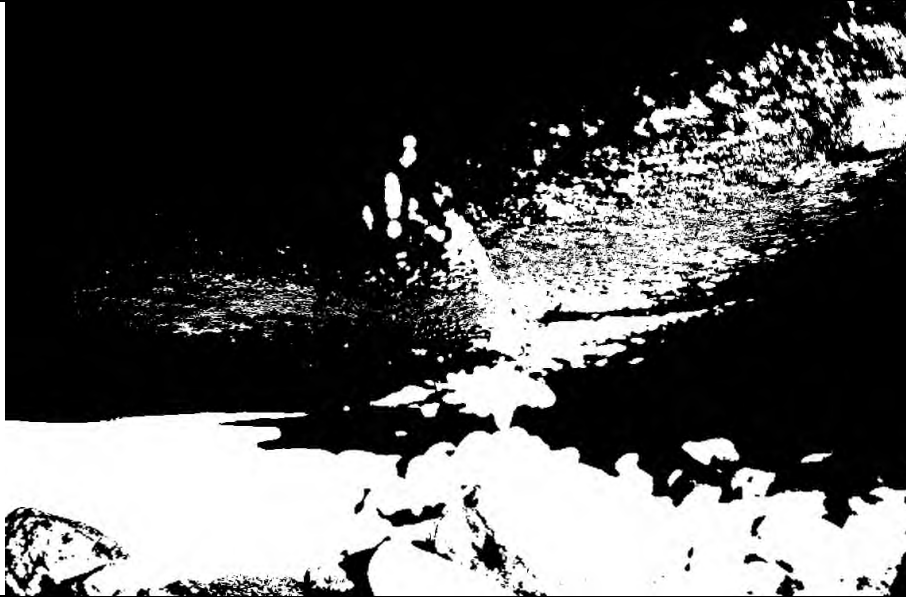
**Coupon 1**

8"x8" coupon cut and removed next to crack/leak.



**Coupon 1**

Underside corrosion and metal loss - top left corner



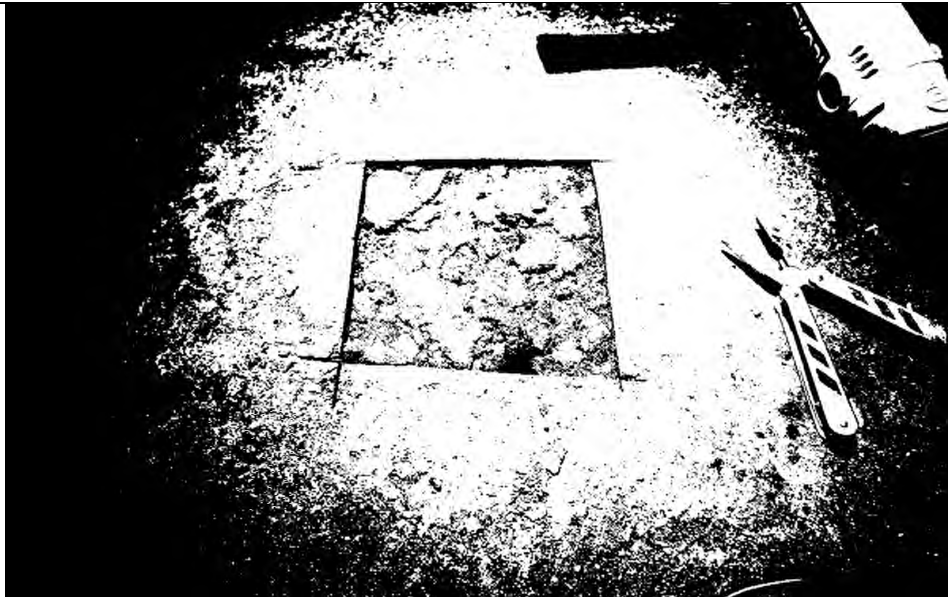
**Underside  
Tank Floor**

Underside corrosion and moisture present



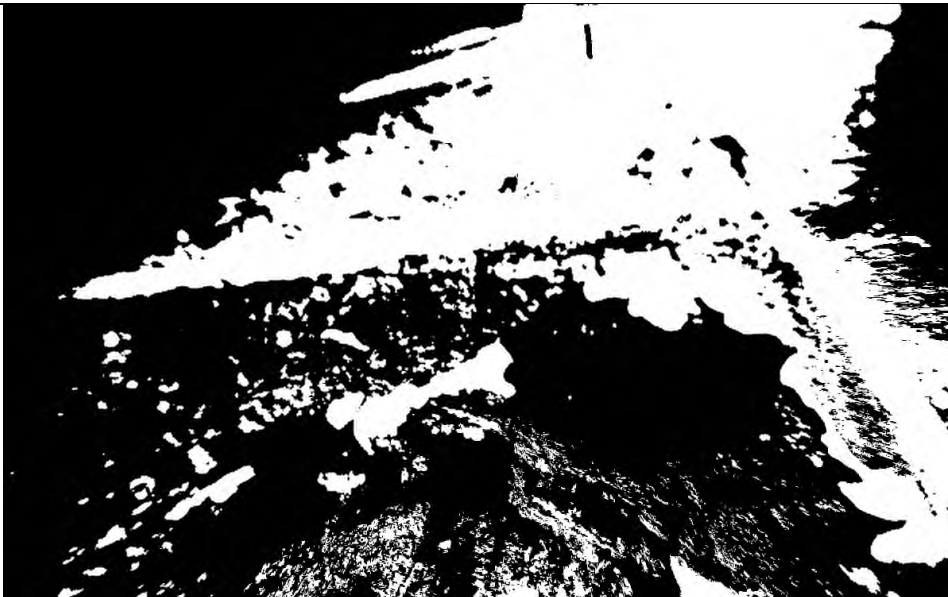
**Underside  
Tank Floor**

Corrosion



**Coupon 2**

Investigating an area that had low UT Readings



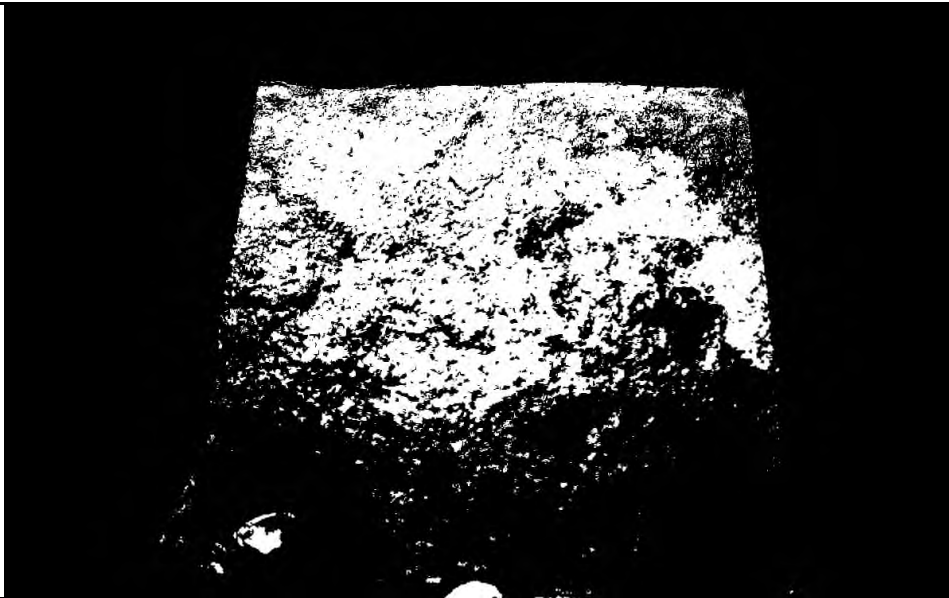
**Coupon 2**

Underside Corrosion



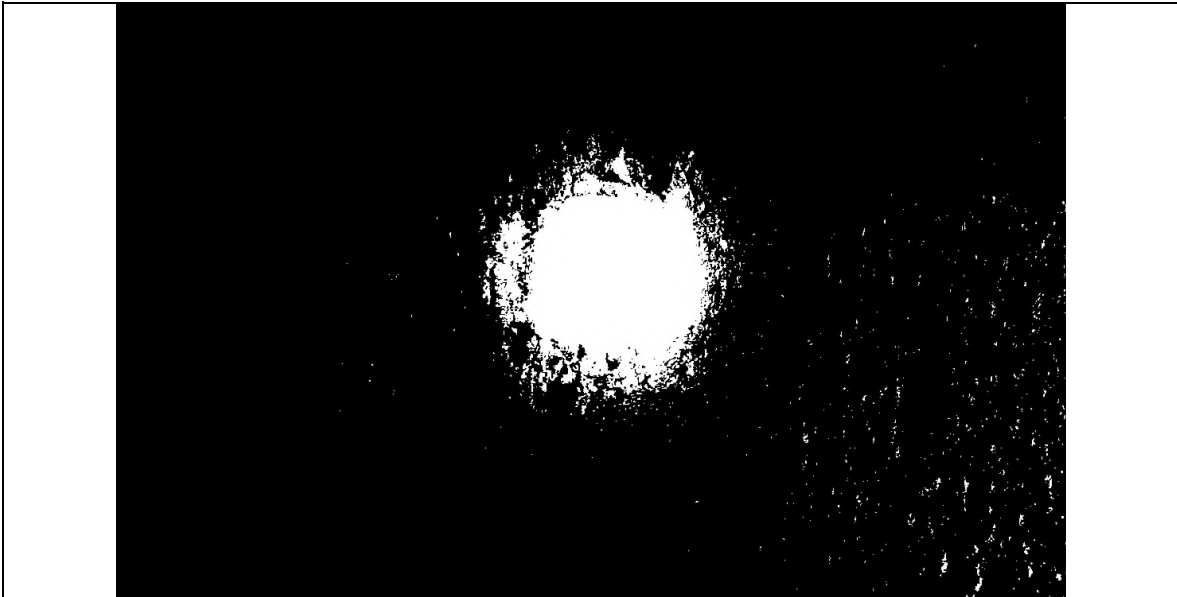
**Coupon 2**

Flaking Rust / Heavy Underside Corrosion



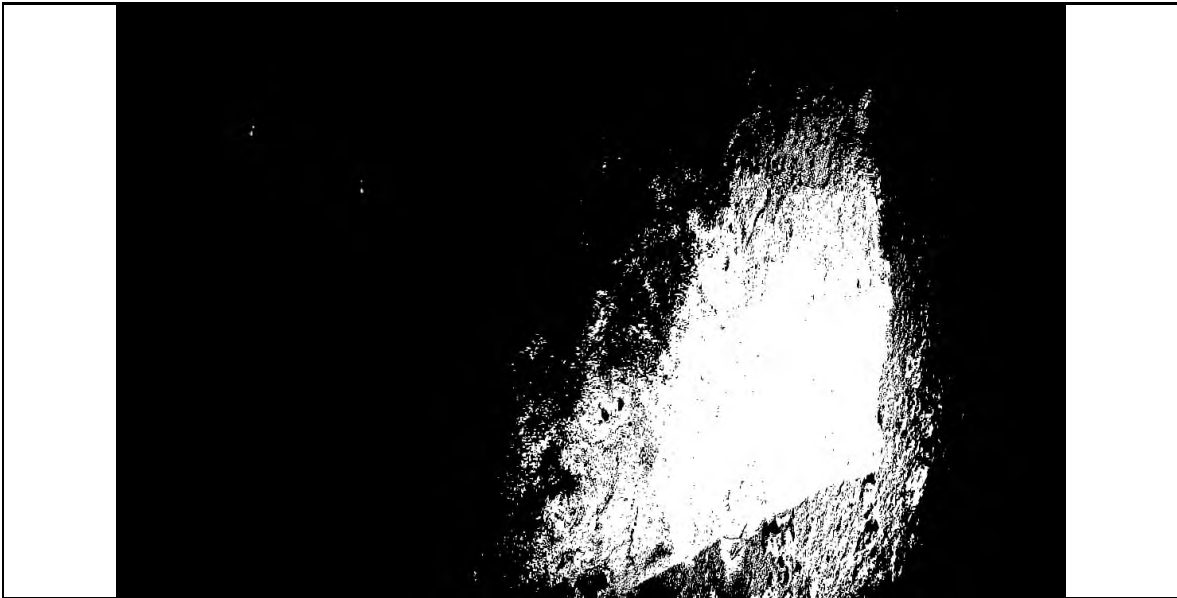
**Coupon 2**

Overview / Metal Loss



**Interior  
Shell**

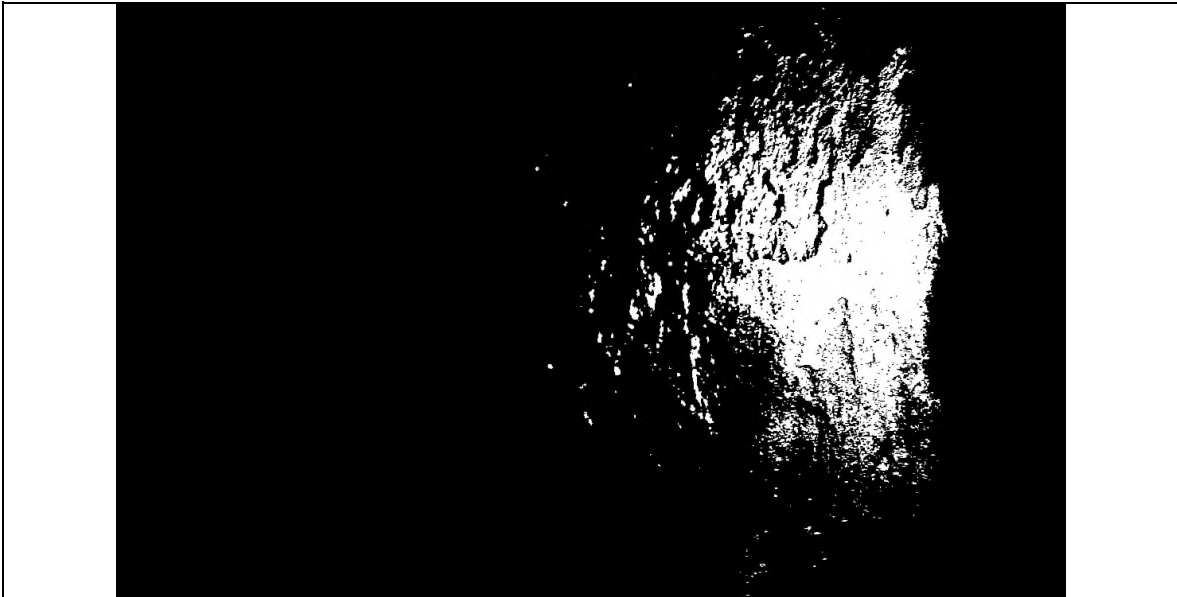
Wire wheel the Rust nodules to expose pitting underneath



**Interior  
Shell**

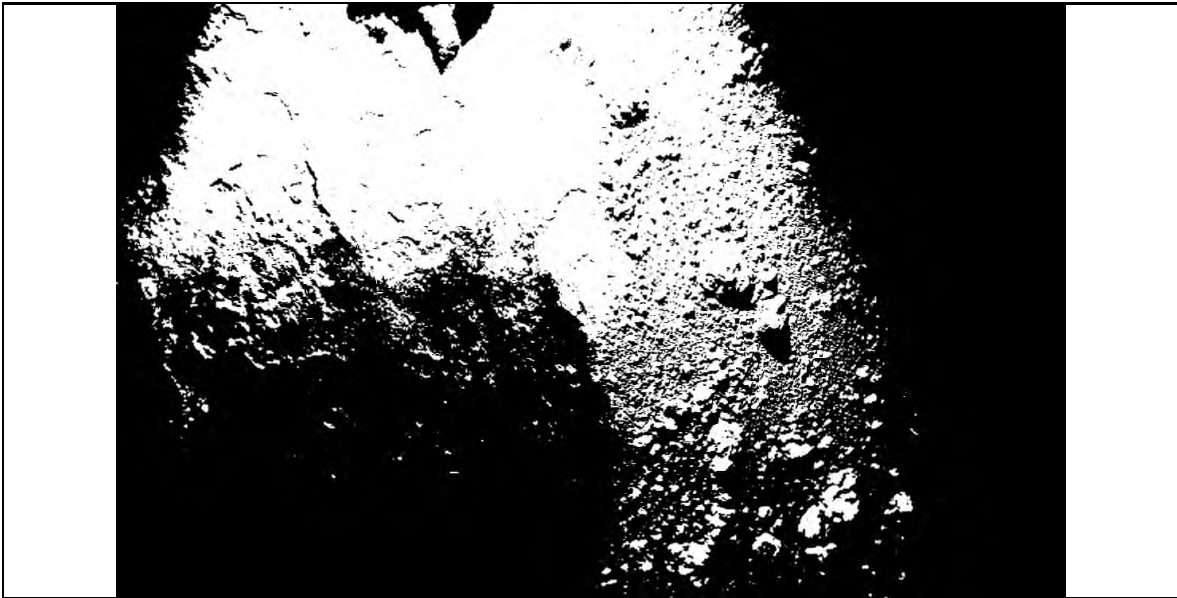
Rust Nodule Pitting





**Interior  
Shell**

Rust Nodule Pitting

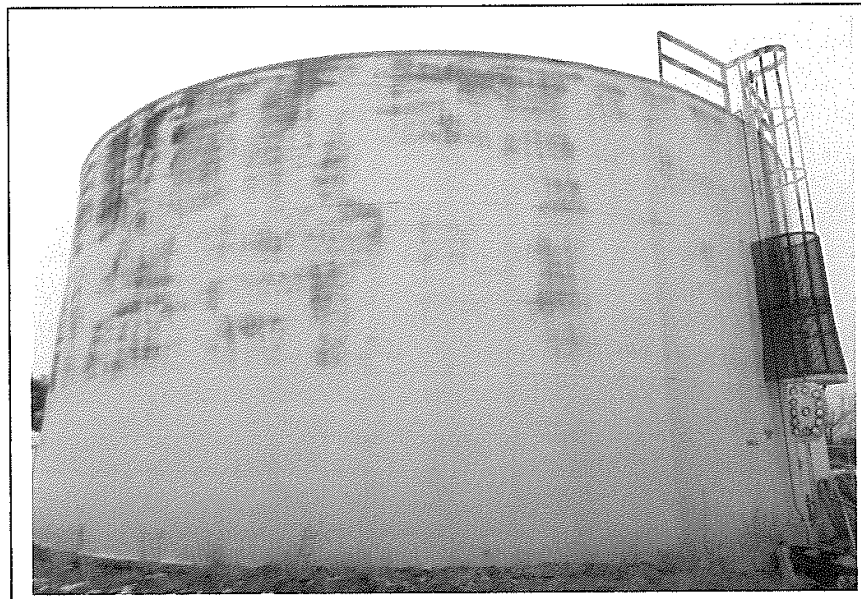


**Interior  
Shell**

Rust Nodule Investigation

---

**Inspection Report for  
Spring Creek Utilities Company  
Spring Creek, NV**



**500KG Steel On-Grade  
Twin Tank Site 200 Tract**

**Date Completed: February 8, 2014**

**Commercial Dive Team:**

**Diver –Nick Blumenblat  
Dive Controller –Jeff Roberts  
Tender –Keegan Nace**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth averaged 2 ½ inches. The sediment, consisting of sand, iron, debris, rocks and pebbles on top of compacted clay, was removed from the 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 ladder was found secure, OSHA approved and in fair condition with minor de-lamination, oxidation and corrosion noted.
3. The roof and wall were found in fair condition with minor de-lamination, heavy oxidation and surface corrosion noted.
4. The hatch was found locked with a gasket in place and in good condition with oxidation and corrosion noted.
5. The J vent was found in good condition with minor oxidation and 10% surface corrosion noted and a screen in place.
6. The base of the tank was found in good condition.
7. The manways were found secure and in good condition with oxidation and less than 1% surface corrosion noted.

### **Interior Inspection**

1. The common inlet/outlet was found in fair condition with staining, blistering and 10% rust noduling noted.
2. The manways and floor were found in fair condition with blistering, staining, pinholes, rust noduling and surface corrosion noted.
3. The overflow was found in fair to poor condition with blistering, staining (very heavy above waterline) and 1% rust noduling & surface corrosion noted. The standoff was also found in fair condition.
4. The drain was found in fair condition with cracking of the coating, blistering, pitting, rust noduling and 5% surface corrosion noted.
5. The interior wall was found in fair to poor condition with blistering, pinholes, runs in the coating and 5% surface corrosion noted. There was also heavy de-lamination present in quadrants 2 and 3.
6. The interior roof was found in fair condition with heavy de-lamination, staining, runs in the coating, de-alloying and 70% concentrated cell corrosion, rust noduling & surface corrosion noted.
7. The support column was found in fair condition with sags & runs in the coating, blistering, pinholes and 3% concentrated cell corrosion, rust noduling & surface corrosion noted.

## **Recommendations:**

1. Schedule time for a blast and recoat. If one is not done in the next 3-5 years, schedule a clean and inspect.

### **Key**

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

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



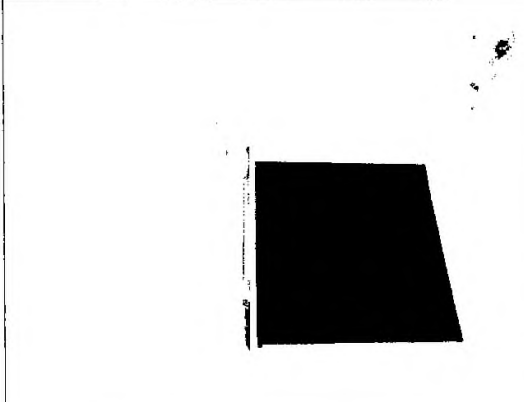
**Fair – Minor problems, repairs needed**



**Poor – Major problems, fix now**



**Inland Potable Services, Inc.**  
**Exterior Inspection Report**



<b>Access Ladder Condition</b>	
<p>Ladder Type: Steel            Coating Condition: Poor            Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Seams/Welds Condition: Good            Oxidation Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Stand Off Supports Condition: Good            Safety Climb Type: Cage &amp; Cable Grab            Safety Climb Condition: Good            Is Top Of Tank Easily Accessible? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Is The Ladder and Safety Climb OSHA Approved? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>             Summary: The ladder was found secure, OSHA approved and in fair condition with minor de-lamination, oxidation and corrosion noted.</p>	
<b>Roof Condition</b>	
<p>Coating Condition: Poor            Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Percentage: 3%            Seams/Welds Condition: Good            Oxidation Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Low Spots Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Holes in Roof? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Cathodic Protection Plates Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>                Sealed Edges: Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/>                Loose Plates? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/>                Missing Plates? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/>             Summary: The roof was found in fair condition with minor de-lamination, heavy oxidation and 3% surface corrosion noted.</p>	
<b>Access Hatch Condition</b>	
<p>Coating Condition: Fair            Corrosion Present: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            Seams/Welds Condition: Good            Oxidation Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>            De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Hatch Size: 3 foot square                Hatch Locked? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>                Hinge Condition: Good            Gasket Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>                Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>            Insects, Dirt Or Debris Present Under Hatch? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>             Summary: The hatch was found locked with a gasket in place and in good condition with oxidation and corrosion noted.</p>	

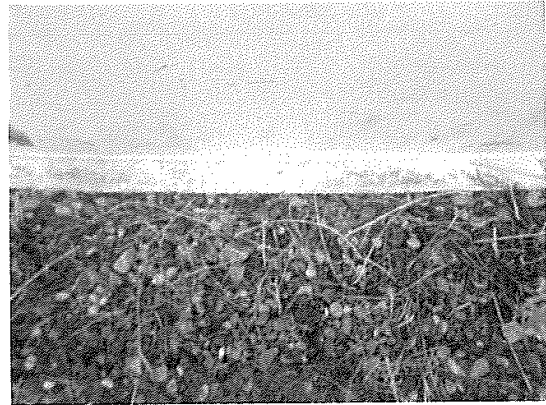
<b>Wall Panel Condition</b>	
<p>Coating Condition: Poor  Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  Percentage: 10%  Seams/Welds Condition: Good  Oxidation Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  Dents Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  Holes Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>Summary: The wall was found in fair condition with minor de-lamination, heavy oxidation and 10% surface corrosion noted.</p>	
<b>Vent Condition</b>	
<p>Coating Condition: Fair  Corrosion Present: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  Percentage: 10%  Seams/Welds Condition: Good  Oxidation Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	<p>Screen in Place? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  Condition: Good  All Openings Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  Cap Condition: N/A</p> <p>Summary: The J vent was found in good condition with minor oxidation and 10% surface corrosion noted and a screen in place.</p>
	

**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  N/A   
Spalling Noted? Y  N  N/A

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



**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 oxidation and less than 1% surface corrosion noted.



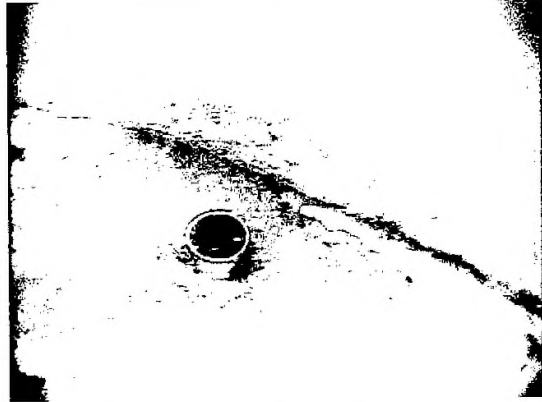


**Inland Potable Services, Inc.**  
**Interior Inspection Report**



**Inlet and Outlet Condition**

Common Inlet/Outlet? Y  N  Location: 11:59 o'clock  
 If No:  
 Outlet Location: N/A  
 Inlet Location: N/A  
 Coating Condition: Fair  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Percentage: 10%  
 Pitting Noted In Metal? Y  N   
 Depth: N/A



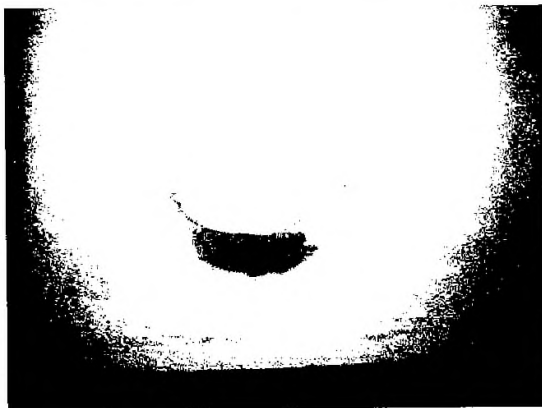
Summary: The common inlet/outlet was found in fair condition with staining, blistering and 10% rust noduling noted.

**Manway Condition**

Manway Locations: 1 o'clock & 7 o'clock  
 Coating Condition: Both Poor  
 Weld/Seam Condition: Both Fair  
 Corrosion Present? Y  N   
 Percentage: 3%

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

Summary: The manways were found in fair condition with blistering, staining, pinholes and 3% rust noduling & surface corrosion noted. The gaskets for both were found to be rigid.



### Overflow Condition

Overflow Location: 9:30 o'clock  
Coating Condition: Poor  
Weld/Seam Condition: Fair  
Corrosion Present? Y  N   
Percentage: 1%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The overflow was found in fair to poor condition with blistering, staining (very heavy above waterline) and 1% rust noduling & surface corrosion noted. The standoff was also found in fair condition.



### Drain Condition

Drain Location: 9:35 o'clock  
Coating Condition: Fair/Poor  
Weld/Seam Condition: Fair  
Corrosion Present? Y  N   
Percentage: 5%  
Pitting Noted In Metal? Y  N   
Depth: 1/16 inch

Summary: The drain was found in fair condition with cracking of the coating, blistering, pitting, rust noduling and 5% surface corrosion noted.

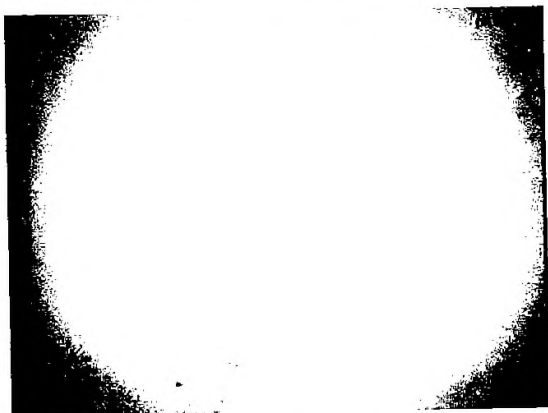




**Wall Panel Condition**

Coating Condition: Poor  
Welds/seam Condition: Fair  
Corrosion Present On Panel? Y  N   
Percentage: 5%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The interior wall was found in fair to poor condition with blistering, pinholes, runs in the coating and 5% surface corrosion noted. There was also heavy de-lamination present in quadrants 2 and 3.



**Roof Condition**

Coating Condition: Poor  
Welds/seam Condition: Fair  
Corrosion Present On Panels? Y  N   
Percentage: 70%  
Metal De-alloying Noted? Y  N   
Percentage: 10%

Summary: The interior roof was found in fair condition with heavy de-lamination, staining, runs in the coating, de-alloying and 70% concentrated cell corrosion, rust noduling & surface corrosion noted.



### Support Column Condition

Coating Condition: Fair  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Percent: 3%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The support column was found in fair condition with sags & runs in the coating, blistering, pinholes and 3% concentrated cell corrosion, rust noduling & surface corrosion noted.

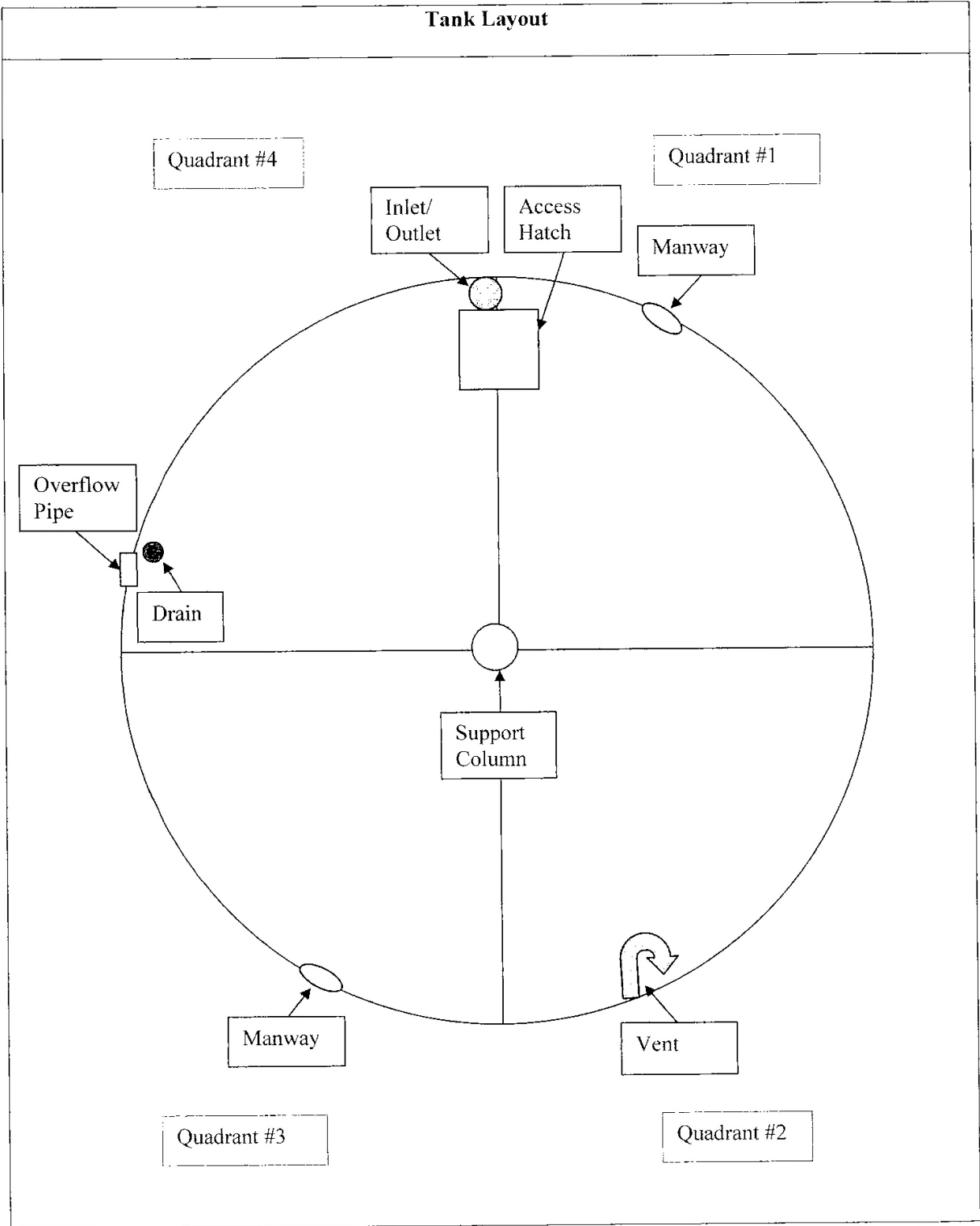


### Floor Condition

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

Summary: The floor was found in fair condition with pinholes, blistering, heavy staining and 1% rust noduling & surface corrosion noted.





# Water Tank Evaluation Report

## 500,000 Gallon High Tank and 500,000 Gallon Twin Tank "B" Ground Storage Reservoirs Spring Creek Utilities Company

SEH No. MIDCO 135136

February 4, 2016



Building a Better World  
for All of Us

Engineers Architects Planners Scientists



Building a Better World  
for All of Us<sup>SM</sup>

February 4, 2016

RE: 500,000 Gallon High Tank and 500,000  
Gallon Twin Tank "B" Ground Storage  
Reservoirs  
Water Tank Evaluation Report  
Spring Creek Utilities Company  
SEH No. MIDCO 135136

Mr. Tim Scheidt  
Regional Manager, Operations  
Spring Creek Utilities Company  
448 Tonka Lane, Unit #3  
Spring Creek, NV 89815

Dear Tim:

We are submitting three copies of the Water Storage Tank Evaluation that Short Elliott Hendrickson conducted on the Utility tanks:

- 500,000 Gallon High Tank Ground Storage Reservoir
- 500,000 Gallon Twin Tank "B" Ground Storage Reservoir

The enclosed report is separated into four sections for each tank: general information, recommendations, summary, and appendices. The recommendation section includes our proposal for the maintenance and or reconditioning and a corresponding cost estimate. Structural commentary referencing the foundation and plate condition, applicable coating analysis, *Coating Summary* and *Accessory* sheets are located in the summary section of this report. The evaluation criteria and methods, lab results for paint chip analysis (High Tank), photographs for each facility and associated standards are found in the appendix.

At this time we are also providing you with supplemental information and the supporting *Dive* video provided by Midco Diving & Marine Services, Inc. regarding each reservoir.

Accomplishing the recommended work, and continuing with minor periodic maintenance, should enable these facilities to meet the needs of their intended service.

Thank you for allowing SEH to provide these services to the City. We look forward to the opportunity to further assist the Utility in developing contract documents and inspection services related to the recommendations outlined in this report.

We would be glad to meet with you to discuss the details of this report at a time convenient to you. Should you have any questions, please contact me at (651) 318-0360.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Wolfgram".

Chris Wolfgram  
Project Manager

cew

s:\ko\midco\135136\4-prelim-dsgn-rpts\135136 wt evaluation report revised 020416.docx

Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc. | 3535 Vadnais Center Drive | Saint Paul, MN 55110-5196  
SEH is 100% employee-owned | [sehinc.com](http://sehinc.com) | 651.490.2000 | 800.325.2055 | 888.908.8166 fax

Water Tank Evaluation Report  
Spring Creek Utilities Company

SEH No. MIDCO 135136

February 4, 2016

I hereby certify that this report was prepared by me or under my direct supervision,  
and that I am a duly Licensed Professional Engineer under the laws of the State of  
Minnesota



Project Engineer

Date: January 15, 2016

Lic. No.: 19869

Reviewed By: Christopher E. Wolfgram

Date: January 15, 2016

Short Elliott Hendrickson Inc.  
3535 Vadnais Center Drive  
St. Paul, MN 55110-5196  
651.490.2000



# Executive Summary

## **500,000 Gallon High Tank**

1. SEH recommends that Spring Creek Utilities Company make consideration for decommissioning of this facility, based upon Information from our field evaluation process this facility is not recommended for rehabilitation.
2. Ultrasound measurements of the tank floor, shell walls, and roof have resulted in unacceptable amounts of material loss.

## **500,000 Gallon Tin Tank "B"**

1. Based on the degree of failures observed along with the age of both the interior and exterior coating systems, work should be scheduled for sometime within the next 24 months.
2. Ultrasound measurements of the tank floor, shell walls, and roof have resulted in acceptable amounts of material loss.
3. The extent of interior observed coating failures as documented in the Coating Summary warrants a total reconditioning.
4. The general condition of the exterior coating system is poor, based on this assessment SEH recommends complete reconditioning of the tank exterior surfaces.
5. SEH suggests that the project be bid several months prior to the anticipated start date in order to attract competitive bids. We estimate this project to be completed in 6 weeks.

*Estimated Construction Cost: \$332,200*

# Table of Contents

Letter of Transmittal  
 Certification Page  
 Executive Summary  
 Table of Contents

	Page
<b>500,000 Gallon High Tank .....</b>	<b>1</b>
<b>1.0 Remaining Tank Life .....</b>	<b>1</b>
<b>2.0 Other Observed Deficiencies .....</b>	<b>1</b>
2.1 Structural .....	1
2.1.1 Exterior Structural .....	1
2.2 Telecommunication .....	2
2.3 Cathodic Protection .....	2
2.4 Interior Coating .....	2
2.5 Exterior Coating .....	2
<b>3.0 Summary .....</b>	<b>2</b>
3.1 Standard of Care .....	2
3.1.1 Structural Evaluation .....	2
3.2 Coating Evaluation .....	2
<b>500,000 Gallon Twin Tank “B” Ground Storage Reservoir .....</b>	<b>9</b>
<b>1.0 Remaining Tank Life .....</b>	<b>9</b>
<b>2.0 Recommendations .....</b>	<b>9</b>
2.1 Structural .....	9
2.1.1 Interior Structural .....	9
2.1.2 Exterior Structural .....	10
2.2 Telecommunication .....	10
2.3 Cathodic Protection .....	10
2.4 Interior Coating .....	10
2.5 Exterior Coating .....	10
<b>3.0 Engineers Estimate .....</b>	<b>11</b>
<b>4.0 Summary .....</b>	<b>11</b>
4.1 Standard of Care .....	11
4.1.1 Structural Evaluation .....	11
4.2 Coating Evaluation .....	12



# Table of Contents (Continued)

## List of Appendices


Appendix A	Evaluation Procedures
Appendix B	ASTM Standards
Appendix C	Copy of Dive DVD
Appendix D	Copy of Photograph DVD
Appendix E	Lab Test Results (High Tank)
Appendix F	Midco Diving & Marine Services, Inc. Ultrasonic Testing Reports

# Tank Evaluation Field Report

## General Information

Project:	Water Tower Evaluation – 0.5MG High Tank Ground Storage Reservoir	
Project No.	MIDCO 135136	
Owner:	Spring Creek Utilities Company	
Contact:	Tim Scheidt	
Address:	448 Tonka Lane, Unit #3, Spring Creek, NV 89815	
Evaluation Date:	December 9, 2015	Chris Wolfgram (NACE No. 59021/CWI No. 15032481)

### Site

Address:	764 Holiday Drive, Spring Creek, NV 89815
Description: 	North: Open
	South: Open
	East: Open
	West: Open
	Security: Perimeter Fence with Barbed Wire
	Obstructions: None
	Overflow Discharge Orientation: Northeast
	Direction of Site Drainage: East

### Tank Information

Manufacturer: Unknown	Year Built: Approx. 1975	Contract No: N/A			
Capacity (Gallons)	Construction		Height to Overflow (Feet)	Diameter (Feet)	Drawings
	Style	Type			
500,000	Ground Storage	Steel	25 Feet	50 Feet	N/A

### Coating Information

	INTERIOR WET	EXTERIOR
Date Last Painted	Unknown	Unknown
Painting Contractor	Unknown	Unknown
Total or Partial	Unknown	Unknown
Surface Preparation	Unknown	Unknown
Coating System	Coal Tar	Epoxy/Urethane
Coating Manufacturer	Unknown	Unknown

# Water Tank Evaluation Report

## 500,000 Gallon High Tank

Prepared for Spring Creek Utilities Company

### 1.0 Remaining Tank Life

SEH recommends that Spring Creek Utilities Company make consideration for decommissioning of this facility, based upon Information from our field evaluation process this facility is not recommended for rehabilitation. Based on the degree of material loss to corrosion in the tank surfaces, SEH recommends replacement of this facility.

Ultrasound measurements of the tank floor, shell walls, and roof have resulted in unacceptable amounts of material loss based upon the assumed construction thicknesses as follows:

Location on Tank	Assumed Plate Thickness	Minimum Measured Thickness	Maximum Calculated Material Loss
Floor	1/4 (0.25) Inch	0.118 Inch	53%
Bottom Shell Ring	3/8 (0.375) Inch	0.174 Inch	54%
Center Shell Ring	5/16 (0.3125) Inch	0.152 Inch	51%
Upper Shell Ring	1/4 (0.25) Inch	0.140 Inch	44%
Roof Plates	1/4 (0.25) Inch	0.180 Inch	28%

### 2.0 Other Observed Deficiencies

Based on the information obtained during our Field Evaluation Process we note the following deficiencies in addition to material loss to corrosion:

#### 2.1 Structural

##### 2.1.1 Exterior Structural

1. The existing perimeter roof vents (8 Each) are not AWWA frost-free design roof vents and allow for foreign objects, insects, and debris to enter the tank
2. The existing level indicator system is inoperable
3. The tank does not currently have manways in compliance with AWWA and OSHA confine space guidelines
4. The existing overflow discharge does not have an air-gap between the tank and where the existing overflow enters the ground adjacent to the tank
5. No splash box is present at the overflow discharge
6. The bottom steel flange at the footing is damaged in multiple locations.

## 2.2 Telecommunication

- SCADA system and solar power currently present on roof with no noted obstructions

## 2.3 Cathodic Protection

This tank is not equipped with a cathodic protection (CP) system.

## 2.4 Interior Coating

Based on the extent of observed coating failures as documented in the Coating Summary, and other deficiencies related to weld or plate finish, the coating system has surpassed its effective life cycle.

## 2.5 Exterior Coating

The general condition of the exterior coating system is poor, as based on the adhesion results as stated in the Coating Summary Report as well as other observed modes of failure. Based on this assessment, the tank exterior coating system has surpassed its effective life cycle.

## 3.0 Summary

### 3.1 Standard of Care

The conclusions and recommendations contained in this report were developed in accordance with generally accepted professional engineering practices at this time and location. Other than this, no warranty is implied or intended.

#### 3.1.1 Structural Evaluation

*Structural commentary under this section refers to the general condition of the foundation, and plate sections of the tank.*

Specific references to items requiring maintenance repair, replacement, or installations to provide code compliance are included in the Recommendation section of this report under *Interior or Exterior Structural*.

The surrounding area is level with the tank.

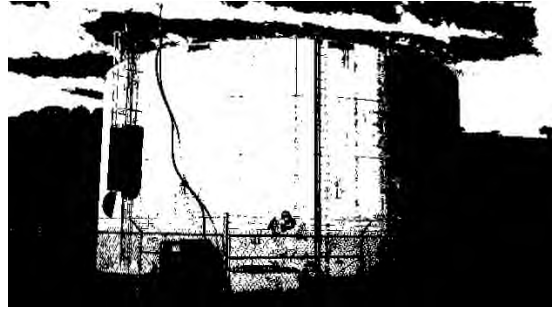
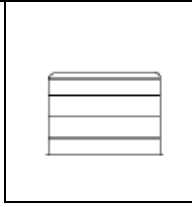
The footing is slightly below grade allowing for water to pond.

### 3.2 Coating Evaluation

Paint chips were extracted from the exterior surface of the tank. These samples were sent to Corrosion Control Consultants and Labs in Kentwood, Michigan for analysis of heavy metals with reference to current standards. On the sample taken from the tanks exterior, the results included (0.53%) chromium and (3.8%) lead. Since current federal and state regulations identifies "lead" based paint at 0.5% by weight, the exterior system would require provisions for any reconditioning to include lead abatement, and possible disposal of hazardous waste materials.

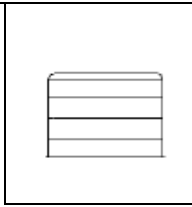
## Exterior Coating Summary

<b>Location:</b>	Exterior		
<b>Area:</b>	Shell		
<b>Adhesion:</b>	2A		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	0.90	15.8	7.6



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>			●		
<b>Peeling</b>			●		
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>			●		
<b>Comments:</b> Moderate rusting, cracking, peeling and delamination throughout, severe chalking throughout, various locations with observed damage from shotgun fire					

<b>Location:</b>	Exterior		
<b>Area:</b>	Roof		
<b>Adhesion:</b>	2A		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	3.0	8.1	5.9



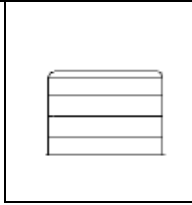
Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>				●	
<b>Comments:</b> Moderate rusting along edges and seams, severe chalking throughout, slight delamination in localized areas					

## Exterior Accessories

Exterior						
	Level	Condition	Agency Compliant	Comments		
Ladders	Shell	Fair	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Bent Rungs		
Ladder Cage	Shell	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	None		
Climb Device	Shell	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cable		
Handrail	Roof	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Angle		
	Level	Condition	Type	Size	Agency Compliant	Comments
Confined Space Entry					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Signage Present
Manways	Roof	Good	Hinged	20" x 22"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<24"
Manways	Roof	Good	Bolted	20"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<24"
Vent	Roof Edge	Fair	Screened	~36" x 6"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Mesh too large, not frost-free design
	Level	No.	Interference	Comments		
Antenna	Roof	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SCADA w/Solar Panel		
	Size	Type	Condition	Agency Compliant	Comments	
Overflow/Splash-pad	8" reduced to 6"	Screened	Poor	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No air-break <input checked="" type="checkbox"/> Termination <12" <input type="checkbox"/>	
	Condition			Comments		
Foundation/Footings	Good			Settlement <input type="checkbox"/> Cracks <input type="checkbox"/> Spalling <input type="checkbox"/> Grout: None		
Valve Pit	Good			SCADA <input checked="" type="checkbox"/> Altitude Valve <input checked="" type="checkbox"/> Heated Controls <input type="checkbox"/>		
	Level		Comments			
Paint Sample	Shell		0.53% Chromium, 3.8% Lead			

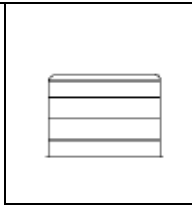
## Interior Coating Summary

Location:	Interior		
Area:	Roof		
Adhesion:	-		
Overall Condition:	Poor		
Dry Film Thickness:	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	2.1	3.2	2.6



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>		●			
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>			●		
<b>Delamination</b>					●
<b>Comments: Advanced rusting with moderate chalking throughout</b>					

Location:	Interior		
Area:	Shell		
Adhesion:	-		
Overall Condition:	Poor		
Dry Film Thickness:	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	66.7	69.1	68.1



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>	●				
<b>Peeling</b>	●				
<b>Pitting</b>					●
<b>Chalking</b>			●		
<b>Delamination</b>			●		
<b>Comments: Moderate rusting and chalking throughout, severe cracking and peeling throughout, moderate delamination in localized areas</b>					

## Interior Accessories

<b>Interior Wet</b>					
Sediment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Depth</b>  <1/4"		Distributed evenly	<b>Removed:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, abandoned cleaning operation due to excessive corrosion
Sump Pit	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
		<b>Agency Compliant</b>	<b>Condition</b>	<b>Comment</b>	
Silt Stop	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Recirculation line: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Cathodic Protection</b>		<b>Type</b>		<b>Comments</b>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		N/A			




# Tank Evaluation Field Report

## General Information

Project:	Water Tower Evaluation – 0.5MG Twin Tank “B” Ground Storage Reservoir	
Project No.	MIDCO 135136	
Owner:	Spring Creek Utilities Company	
Contact:	Tim Scheidt	
Address:	448 Tonka Lane, Unit #3, Spring Creek, NV 89815	
Evaluation Date:	December 9, 2015	Chris Wolfgram (NACE No. 59021/CWI No. 15032481)

### Site

Address:	615 Engle Drive, Spring Creek, NV 89815
	Description:
	North: Open
	South: Pump Station
	East: Open
	West: Adjacent Tank and Residential
	Security: Perimeter Fence with Barbed Wire
	Obstructions: None
	Overflow Discharge Orientation: N/A
Direction of Site Drainage: Southeast	

### Tank Information

Manufacturer: Unknown		Year Built: Approx. 1985	Contract No: N/A		
Capacity (Gallons)	Construction		Height to Overflow (Feet)	Diameter (Feet)	Drawings
	Style	Type			
500,000	Ground Storage	Steel	25 feet	50 feet	N/A

### Coating Information

	INTERIOR WET	EXTERIOR
Date Last Painted	Unknown	Unknown
Painting Contractor	Unknown	Unknown
Total or Partial	Unknown	Unknown
Surface Preparation	Unknown	Unknown
Coating System	Epoxy	Epoxy/Urethane
Coating Manufacturer	Unknown	Unknown

# Water Tank Evaluation Report

## 500,000 Gallon Twin Tank "B" Ground Storage Reservoir

Prepared for Spring Creek Utilities Company

### 1.0 Remaining Tank Life

SEH recommends that Spring Creek Utilities Company considers reconditioning of this facility based on information from our field evaluation. Based on the degree of coating failures observed along with the age of both the interior and exterior coating systems, work should be scheduled for sometime within the next 24 months. This will prevent any serious damage to already exposed surfaces.

Ultrasound measurements of the tank floor, shell walls, and roof have resulted in acceptable amounts of material loss based upon the assumed construction thicknesses as follows:

Location on Tank	Assumed Plate Thickness	Minimum Measured Thickness	Maximum Calculated Material Loss
Floor	1/4 (0.25) Inch	0.180 Inch	28%*
Bottom Shell Ring	3/8 (0.375) Inch	0.308 Inch	18%
Center Shell Ring	5/16 (0.3125) Inch	0.250 Inch	20%
Upper Shell Ring	1/4 (0.3125) Inch	0.254 Inch	19%
Roof Plates	1/4 (0.25) Inch	0.174 Inch	30%

*\*Maximum Calculated Material loss measurements are from localized areas as demonstrated in the attached Midco "Diagram Report From Ultrasonic Testing".*

Upon completion of the recommended modifications, repairs, and coating application, this tank should continue to provide service to the Spring Creek Utilities Company for many years to come. The normal expectancy of a reservoir is 60+ years when prescribed periodic maintenance is followed.

Periodic maintenance following guidelines as prescribed by AWWA in Manual M42 is recommended.

### 2.0 Recommendations

Based on the information obtained during our Field Evaluation Process we recommend the following:

#### 2.1 Structural

##### 2.1.1 Interior Structural

1. Seal the following with elastomeric caulk to inhibit the occurrence of rust bleed:

- Gaps in the lapped plates including the roof to roof plates (seams above the normal waterline)
  - Roof openings and other roof penetrations
  - At the intermittently welded roof stiffener angles/beams
2. Remove by air arc gouging, cutting torch or grinding all surface imperfections including erection scab marks
  3. Add an interior safety ladder extending from the roof to the bottom

### **2.1.2 Exterior Structural**

1. Remove the existing roof vent and install a new AWWA frost-free design roof vent located near the center of the roof
2. Remove by arc gouging, cutting torch or grinding all surface imperfections including erection scab marks
3. Remove the existing level indicator system
4. Replace gaskets and provide new locks for all roof hatches
5. Replace shell man-way bolts and gaskets
6. Install a new locking ladder shield, or hinged grate-hatch to prevent unauthorized access

## **2.2 Telecommunication**

- SCADA system currently on roof with no noted obstructions

## **2.3 Cathodic Protection**

This tank is not equipped with a cathodic protection (CP) system. Based on the condition of this tank, as observed during our investigation, the addition of a CP system is not warranted.

## **2.4 Interior Coating**

Based on the extent of observed coating failures as documented in the Coating Summary, and other deficiencies related to weld or plate finish, a total reconditioning is recommended.

All surfaces should be abrasive blasted to a Society for Protective Coatings (SSPC) SP-10 "Near White" standard of cleanliness. Surface discontinuities such as erection marks, weld spatter, and sharp fins should be removed by grinding, and re-blasted to achieve a uniform surface profile consistent with the coating manufacturer's product recommendation. This would also include all applicable structural repairs and modifications.

Following surface preparation, all surfaces should receive a two to three-coat application (depending on product manufacturer) of a zinc/epoxy-polyamide coating system certified in accordance with ANSI/NSF standard 61.

## **2.5 Exterior Coating**

The general condition of the exterior coating system is poor, as based on the adhesion results stated in the Coating Summary Report as well as other observed modes of failure. Based on this assessment SEH recommends complete reconditioning of the tanks exterior surfaces.

Complete removal and replacement with a new zinc/epoxy/polyurethane coating system offers a long-term solution to the existing system. All surfaces should be prepared to an SSPC SP-6 or equal "Commercial Blast" level of cleanliness. This should be followed by a zinc/polyamide-epoxy/acrylic-polyurethane coating system. To avoid fugitive dust emissions and/or paint drift, a full-containment structure will need to be constructed.

### 3.0 Engineers Estimate

Tank description	Units	Cost
<b>Interior Structural</b>		
Caulking	LF	\$2,500
Grinding	HR	\$3,500
Ladder Installation	LS	\$3,300
<b>Interior Coating:</b>	LS	\$131,800
<b>Exterior Structural</b>		
Grinding	HR	\$4,000
Remove Level Indicator System	LS	\$2,000
Roof vent replace with frost-free	LS	\$6,800
Install Cage Grate/Ladder Shield	LS	\$1,400
<b>Exterior Coating:</b>	LS	\$78,600
<b>Containment</b>	LS	\$55,000
<b>Subtotal</b>		\$288,900
<b>15% Contingency</b>		\$43,300
<b>Estimated Project Cost</b>		\$332,200

The above project costs are based on current pricing derived from consultation with area contractors, suppliers, and manufacturers as applicable to the scope of work. SEH suggests that the project be bid several months prior to the anticipated start date attract competitive bids. We estimate this project to be completed in 6 weeks.

SEH also recommends inspection during critical operations on the project to ensure proper surface preparation and coating system application, along with any other work noted herein.

***As an alternative, SEH through its subsidiary SEH Design Build can provide the Utility with seamless delivery of the entire project.***

***Through SEH Design Build the Utility can defer full payment up to five years, and have the workmanship guaranteed. SEH has teamed exclusively with Classic Protective Coatings.***

## 4.0 Summary

### 4.1 Standard of Care

The conclusions and recommendations contained in this report were developed in accordance with generally accepted professional engineering practices at this time and location. Other than this, no warranty is implied or intended.

#### 4.1.1 Structural Evaluation

*Structural commentary under this section refers to the general condition of the foundation, and plate sections of the tank.*

Based on our visual examination of the tank structure and footings, it appears that the facility is in good condition at this time. However, modifications are necessary to bring it into compliance with current standards with respect to ventilation. In addition, repairs within the tank interior are suggested before any recoating in order to enhance its long-term serviceability.

The structure complies with current standards with respect to personal access.

Specific references to items requiring maintenance repair, replacement, or installations to provide code compliance are included in the Recommendation section of this report under *Interior or Exterior Structural*.

Our inspection of the tank's footing revealed no cracking or spalling.

The surrounding area is level with the tank.

The footing is slightly below grade allowing for water to pond.

The interior of the tank is in good condition, with no observed pitting of steel plates.

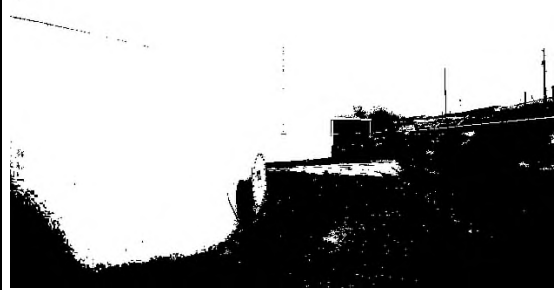
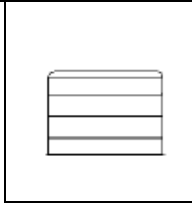
However, a number of deficiencies resulting from poor weld finish were observed and are discussed further in this report.

## **4.2 Coating Evaluation**

Interior and exterior paint chip samples were not extracted during our evaluation. Coating systems, at the time of this tank's construction, were neither lead nor chromium based. The exterior system will not require any provisions that include the abatement of lead or chromium, or the disposal of hazardous waste materials. However, containment is necessary to prevent the emission of fugitive dust during operations that include the removal of the exterior coating system.

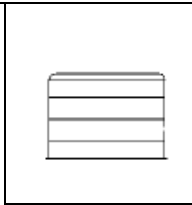
## Exterior Coating Summary

<b>Location:</b>	Exterior		
<b>Area:</b>	Lower Shell		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Fair		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	0.2	5.4	2.2



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>				●	
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>					●
<b>Comments:</b> Slight rusting in localized areas where coating has been damaged, severe chalking throughout					

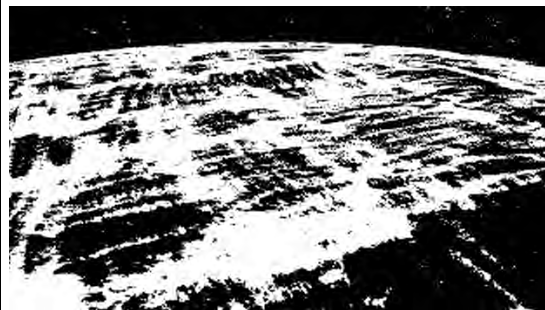
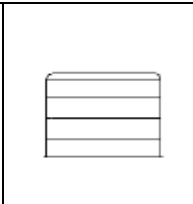
<b>Location:</b>	Exterior		
<b>Area:</b>	Upper Shell		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	0.6	1.2	0.9



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>					●
<b>Comments:</b> Moderate rusting in localized areas and roof edge, severe chalking throughout, minimal coating remains					

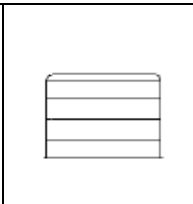
## Exterior Coating Summary

<b>Location:</b>	Exterior		
<b>Area:</b>	Roof		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	0.25	2.1	1.4



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>					●
<b>Comments:</b> Moderate rusting in localized areas, severe chalking throughout, minimal coating remains					

<b>Location:</b>	Exterior		
<b>Area:</b>	Handrail/Manway		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	-	-	-



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>					●
<b>Comments:</b> Moderate rusting in localized areas, severe chalking throughout, minimal coating remains					

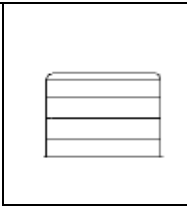
## Exterior Accessories

<b>Exterior</b>						
	Level	Condition	Agency Compliant	Comments		
Ladders	Shell	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	None		
Ladder Cage	Shell	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	None		
Climb Device	Shell	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cable		
Handrail	Roof	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Angle		
	Level	Condition	Type	Size	Agency Compliant	Comments
Confined Space Entry					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Signage Present
Manways	Shell	Good	Bolted	24"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Replace gasket
Manways	Roof	Good	Hinged	30" x 30"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Replace gasket
Vent	Roof	Fair	Screened	6"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Not frost-free design
	Level	No.	Interference	Comments		
Antenna	None		<input type="checkbox"/> Yes <input type="checkbox"/> No			
	Size	Type	Condition	Agency Compliant	Comments	
Overflow/Splash-pad	None			<input type="checkbox"/> Yes <input type="checkbox"/> No	No air-break <input type="checkbox"/> Termination <12" <input type="checkbox"/>	
	Condition			Comments		
Foundation/ Footings	Good			Settlement <input type="checkbox"/> Cracks <input type="checkbox"/> Spalling <input type="checkbox"/> Grout: None		
	Level		Comments			
Paint Sample	None					



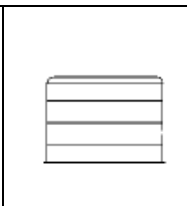
## Interior Coating Summary

<b>Location:</b>	Interior		
<b>Area:</b>	Roof		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Very Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	0.25	19.5	10.2



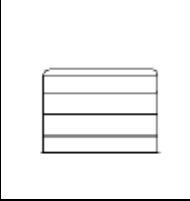

Condition	Severe	Advanced	Moderate	Slight	None/NA
<b>Rusting</b>		●			
<b>Blistering</b>					●
<b>Cracking</b>		●			
<b>Peeling</b>	●				
<b>Pitting</b>					●
<b>Chalking</b>		●			
<b>Delamination</b>					●
<b>Comments:</b> Advanced rusting and cracking with chalking throughout, severe peeling at roof plates					

<b>Location:</b>	Interior		
<b>Area:</b>	Upper Shell		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Very Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	-	-	-

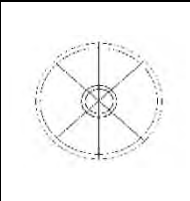



Condition	Severe	Advanced	Moderate	Slight	None/NA
<b>Rusting</b>		●			
<b>Blistering</b>					●
<b>Cracking</b>		●			
<b>Peeling</b>	●				
<b>Pitting</b>					●
<b>Chalking</b>		●			
<b>Delamination</b>					●
<b>Comments:</b> Advanced rusting and cracking with chalking throughout, severe peeling above high water line					

## Interior Coating Summary

<b>Location:</b>	Interior		
<b>Area:</b>	Lower Shell		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
	-	-	-

Condition	Severe	Advanced	Moderate	Slight	None/NA
Rusting			●		
Blistering		●			
Cracking					●
Peeling			●		
Pitting					●
Chalking			●		
Delamination					●
<b>Comments:</b> Moderate rusting and peeling with chalking throughout, advanced blistering throughout					

<b>Location:</b>	Interior		
<b>Area:</b>	Floor		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
	-	-	-

Condition	Severe	Advanced	Moderate	Slight	None/NA
Rusting			●		
Blistering			●		
Cracking					●
Peeling				●	
Pitting					●
Chalking			●		
Delamination					●
<b>Comments:</b> Moderate rusting and blistering with chalking throughout, slight peeling at edges					

## Interior Accessories

<b>Interior Wet</b>				
Sediment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Depth</b>		Removed:
		0 - 2 Inch		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, requested no removal by owner
Sump Pit	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
		<b>Agency Compliant</b>	<b>Condition</b>	<b>Comment</b>
Silt Stop	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Good	Recirculation line: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Cathodic Protection</b>		<b>Type</b>		<b>Comments</b>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		N/A		

---

# Appendix A

## Evaluation Procedures

# Evaluation Procedures

## Tank Evaluation Methods

The exterior of the tank was evaluated in conformance with the following:

- The guidelines set forth in AWWA D101, “Inspecting Steel Tank Standpipes, and Elevated Tanks for Water Storage,” and Manual M42. The condition of ladders, bolted connections, and other appurtenances not specifically mentioned in the summary sections, or Coating Summary Report, should be assumed satisfactory.
- The surface of the interior coating system was examined by dive inspection.
- No structural analysis was conducted to determine if the tank’s design complies with current standards of AWWA D100, “Welded Steel Tanks for Water Storage.” However a physical assessment of tank appurtenances in accordance with current design standards was conducted and discoveries noted in this report.
- As part of the evaluation, conditions that appeared unsafe or not in conformance with current OSHA regulations were recorded and are contained in this report.

## Coating Serviceability

The estimated remaining service life of the coating systems is evaluated through the use of these instruments: dry film thickness gage, cross-cut guide kit, putty knife, and 30X microscope.

Interior and exterior coatings, where accessible, were evaluated in accordance with Society for Protective Coatings SSPC PA-2 “Measurement of Dry Film Thickness with Magnetic Gages”, using a Type 2 field probe and magnetic flux gage. In addition, a Tooke gage was utilized to identify the number of coating applications and estimated thickness of each coat. Since steel plates and structural members appeared visually to be in good condition, an ultrasonic thickness gage was not used during our evaluation. Where steel plates and structural members were assumed to be in poor condition based on the age of the facility, an ultrasonic thickness and or pit gage was used during the evaluation.

The use of inspection instruments was combined with a thorough visual examination of accessible exterior areas for holidays (voids), runs, sags, surface contaminants, overspray, dry spray, delamination, steel condition under the coating system, and any other questionable deficiencies as objectively compared to ASTM and industry standards.

## Coating Assessment Criteria

The overall condition of each area of the tank has been assessed within the following categories: severe, advanced moderate, slight and none to determine the necessity for maintenance, if any. These categories have been devised by SEH to assist in quantifying the degree of failure observed, and are based on applicable ASTM standards. See Appendix B.

These standards include, but are not limited to:

- ASTM D 3359 Test Method for Measuring Adhesion by Tape
- ASTM D 610 Method for Evaluating Degree of Rusting
- ASTM D 714 Test Method for Evaluating the Degree of Blistering of Paints

Standard	ASTM	Severe (Very poor)	Advanced (Poor)	Moderate (Fair)	Slight (Good)	None (Excellent)
Adhesion	D 3359	0	1	2	3 to 4	5
Rusting	D 610	4	5	6 to 7	8 to 9	10
Blistering	D 714	Dense	Medium Dense	Medium	Few	
Pitting	G-46	5	4	3	1 to 2	

---

# Appendix B

## ASTM Standards



## Standard Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces<sup>1</sup>

This standard is issued under the fixed designation D 610; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the Department of Defense.*

### 1. Scope\*

1.1 This test method covers the evaluation of the degree of rusting on painted steel surfaces. The visual examples which depict the percentage of rusting given in the written specifications form part of the standard. In the event of a dispute, the written definition prevails. These visual examples were developed in cooperation with SSPC: The Society for Protective Coatings to further standardization of methods.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

2.1 *ASTM Adjunct/SSPC: The Society for Protective Coatings*

SSPC-VIS 2/ASTM D 610 Standard Method of Evaluating Degrees of Rusting on Painted Steel Surfaces<sup>2</sup>

### 3. Significance and Use

3.1 The amount of rusting beneath or through a paint film is a significant factor in determining whether a coating system should be repaired or replaced. This test method provides a standardized means for quantifying the amount and distribution of visible surface rust.

3.2 The degree of rusting is evaluated using a zero to ten scale based on the percentage of visible surface rust.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.46 on Industrial Protective Coatings.

This test method has been jointly approved by ASTM and SSPC: The Society for Protective Coatings.

Current edition approved May 10, 2001. Published July 2001. Originally published as D 610 – 41. Last previous edition D 610 – 95.

<sup>2</sup> Colored visual examples are available at a nominal cost from ASTM Headquarters (request Adjunct ADJD0610a), SSPC Publication No. 00-08 from SSPC: The Society for Protective Coatings, 40 24th Street, Sixth Floor, Pittsburgh, PA 15213, www.sspc.org.

3.3 The distribution of the rust is classified as spot rust, general rust, pinpoint rust or hybrid rust.

### 4. Interferences

4.1 The visual examples that are part of this test method and the associated rust-grade scale cover only rusting evidenced by visible surface rust.

4.2 The use of the visual examples requires the following cautions:

4.2.1 Some finishes are stained by rust. This staining must not be confused with the actual rusting involved.

4.2.2 Accumulated dirt or other material may make accurate determination of the degree of rusting difficult.

4.2.3 Certain types of deposited dirt that contain iron or iron compounds may cause surface discoloration that should not be mistaken for corrosion.

4.2.4 Failure may vary over a given area. Discretion must therefore be used when selecting a single rust grade or rust distribution that is to be representative of a large area or structure, or in subdividing a structure for evaluation.

4.2.5 The color of the finish coating should be taken into account in evaluating surfaces as failures will be more apparent on a finish that shows color contrast with rust, such as used in these reference standards, than on a similar color, such as an iron oxide finish.

### 5. Procedure

5.1 Select an area to be evaluated.

5.2 Determine the type of rust distribution using definitions in Table 1 and visual examples in Fig. 1, Fig. 2, and Fig. 3.

5.3 Estimate percentage of surface area rusted using the visual examples in Fig. 1, Fig. 2, and Fig. 3 or SSPC-VIS 2, or both, by electronic scanning techniques or other method agreed upon by contracting parties.

NOTE 1—The numerical rust grade scale is an exponential function of the area of rust. The rust grade versus area of rust is a straight line plot on semilogarithmic coordinate from rust grade 10 to rust grade 4. The slope of the curve was changed at 10 % of the area rusted to 100 % rusted to permit inclusion of complete rusting on the 0 to 10 rust scale.

\*A Summary of Changes section appears at the end of this standard.

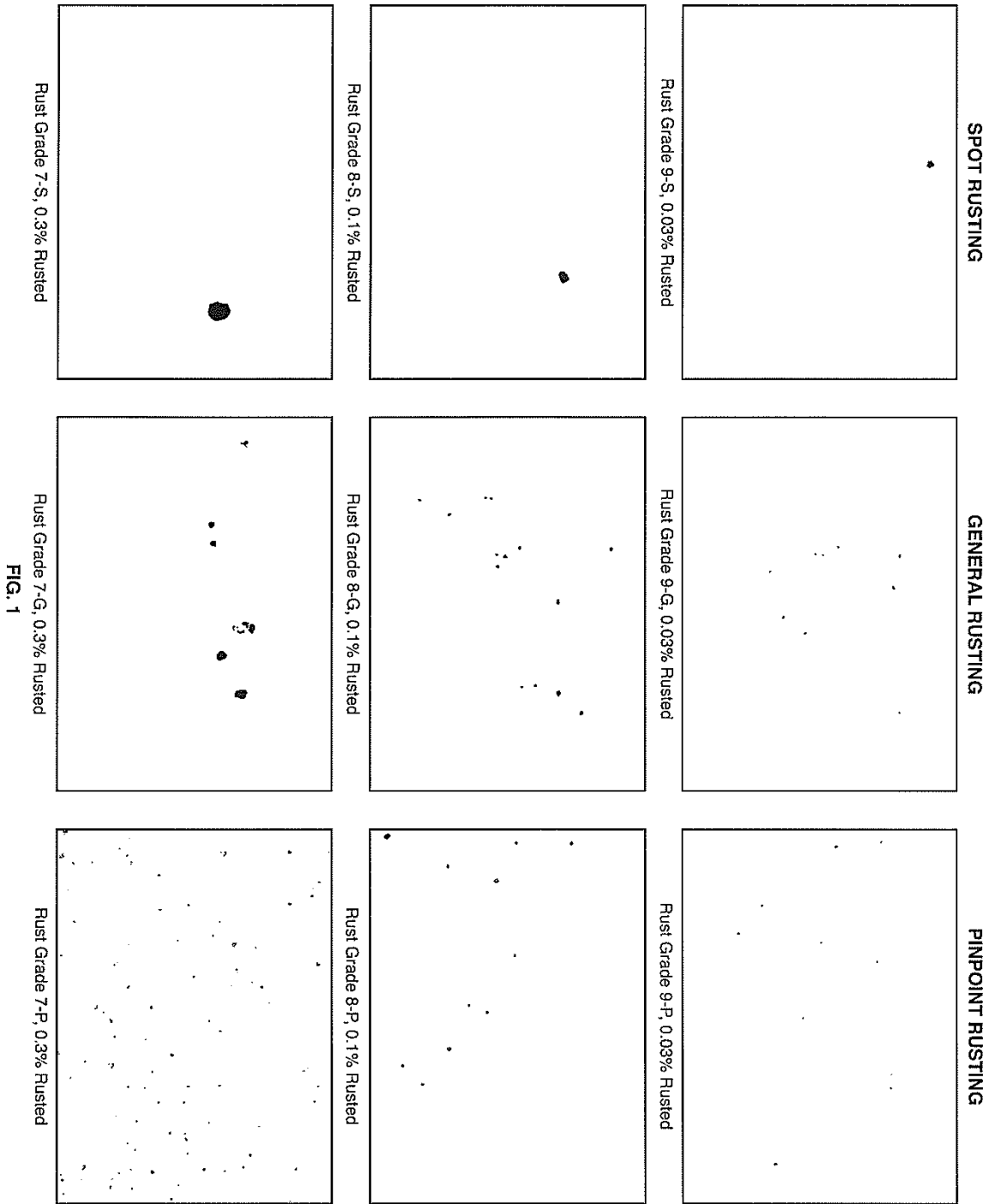


FIG. 1

FIG. 1 Examples of Area Percentages



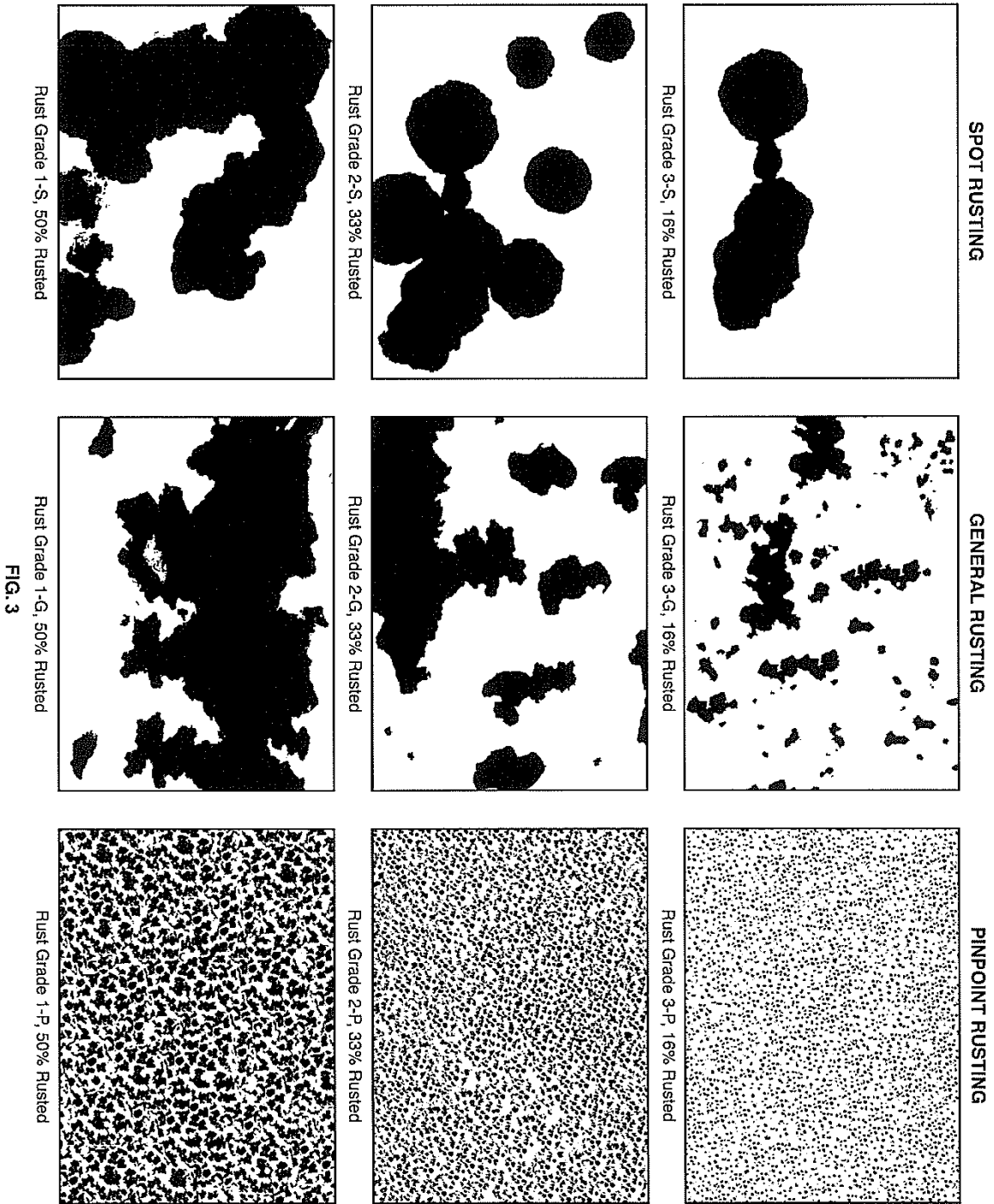


FIG. 3 Examples of Area Percentages



## Standard Test Method for Evaluating Degree of Blistering of Paints<sup>1</sup>

This standard is issued under the fixed designation D 714; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the Department of Defense.*

### 1. Scope

1.1 This test method employs photographic reference standards to evaluate the degree of blistering that may develop when paint systems are subjected to conditions which will cause blistering. While primarily intended for use on metal and other nonporous surfaces, this test method may be used to evaluate blisters on porous surfaces, such as wood, if the size of blisters falls within the scope of these reference standards. When the reference standards are used as a specification of performance, the permissible degree of blistering of the paint system shall be agreed upon by the purchaser and the seller.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Significance and Use

2.1 A phenomenon peculiar to painted surfaces is the formation of blisters relative to some system weakness. This test method provides a standard procedure of describing the size and density of the blisters so that comparisons of severity can be made.

### 3. Reference Standards

3.1 The photographic reference standards are glossy prints.<sup>2</sup> Figs. 1-4 are reproductions of these standards and are included to illustrate two characteristics of blistering: size and frequency.

3.2 *Size*—Reference standards have been selected for four steps as to size on a numerical scale from 10 to 0, in which No. 10 represents no blistering. Blistering standard No. 8 represents the smallest size blister easily seen by the unaided eye. Blistering standards Nos. 6, 4, and 2 represent progressively larger sizes.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.25 on Evaluation of Weathering Effects.

Current edition approved Dec. 10, 2002. Published February 2003. Originally approved in 1943. Last previous edition approved in 2000 as D 714 – 87 (2000).

<sup>2</sup> Glossy prints of the photographic reference standards showing types of blistering are available at a nominal charge from ASTM International. Order Adjunct ADJD0714.

3.3 *Frequency*—Reference standards have been selected for four steps in frequency at each step in size, designated as follows:

Dense, *D*,  
Medium dense, *MD*,  
Medium, *M*, and  
Few, *F*.

NOTE 1—A quantitative physical description of blistering would include the following characteristics determined by actual count:

Size distribution in terms of mensuration units,  
Frequency of occurrence per unit area,  
Pattern of distribution over the surface, and  
Shape of blister

For the usual tests, an actual count is more elaborate than is necessary.

### 4. Procedure

4.1 Subject the paint film to the test conditions agreed upon by the purchaser and the seller. Then evaluate the paint film for the degree of blistering by comparison with the photographic reference standards in Figs. 1-4.

### 5. Report

5.1 Report blistering as a number (Note 2) designating the size of the blisters and a qualitative term or symbol indicating the frequency.

5.2 Intermediate steps in size or frequency of blisters may be judged by interpolation.

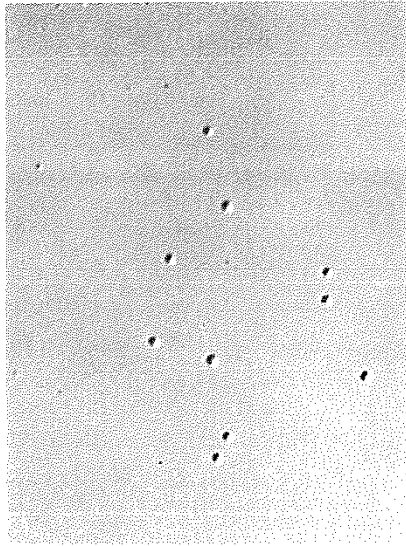
5.3 When the distribution of blisters over the area has a nonuniform pattern, use an additional phrase to describe the distribution, such as “small clusters,” or “large patches.”

NOTE 2—The number refers to the largest size blister that is numerous enough to be representative of the specimen. For example, photographic standard No. 4, “Dense,” has blisters ranging in size from about No. 7 to No. 4, inclusive.

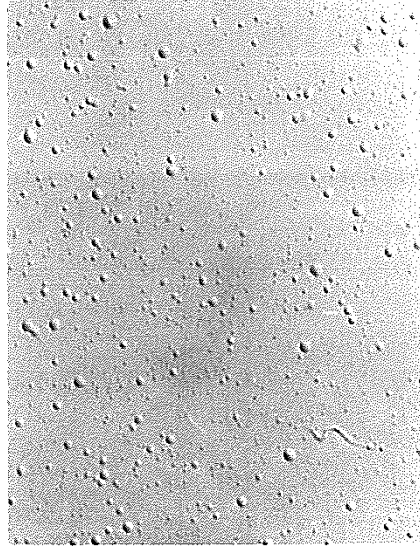
5.4 The pictorial representations in this standard which are published in the Book of Standards are sufficient in order to conduct the evaluation. It is preferable however, to use the original photographs or drawings when available.

### 6. Keywords

6.1 blistering; corrosion; evaluations; reference standards

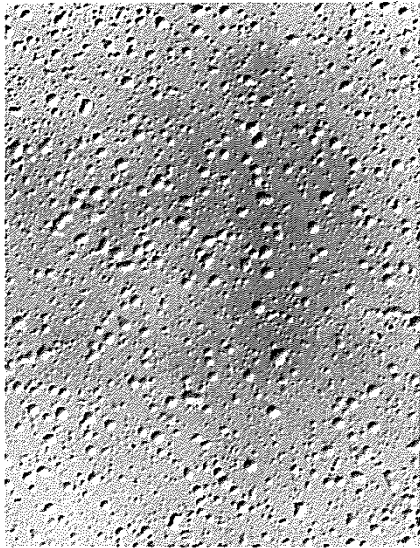


Few

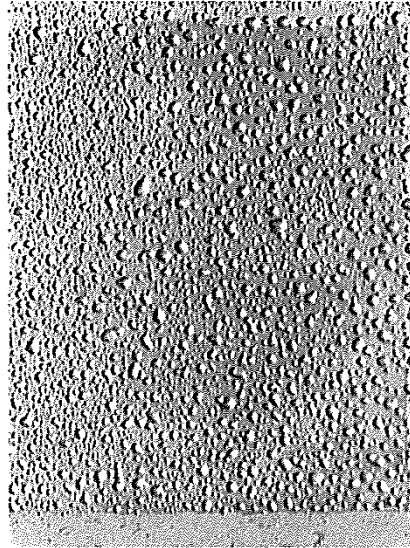


Medium

FIG. 2 Blister Size No. 4

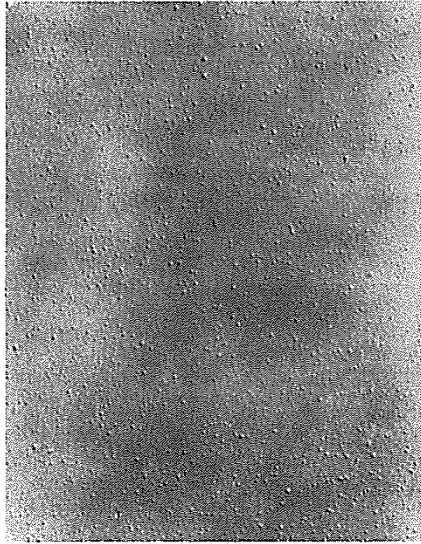


Dense

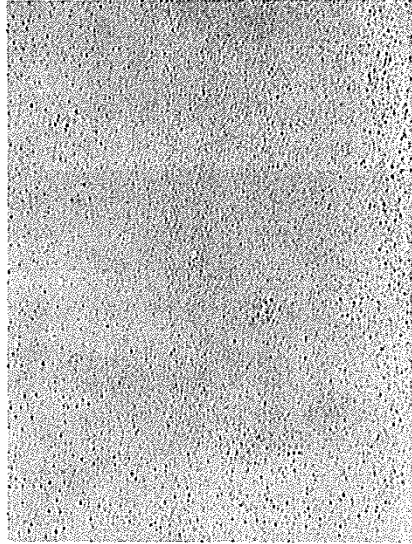


Dense

FIG. 2 (continued)

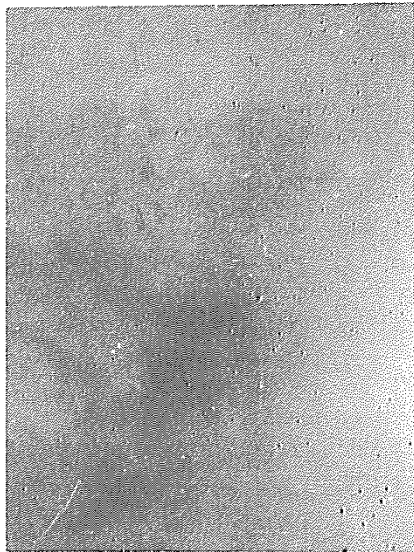


Medium Dense

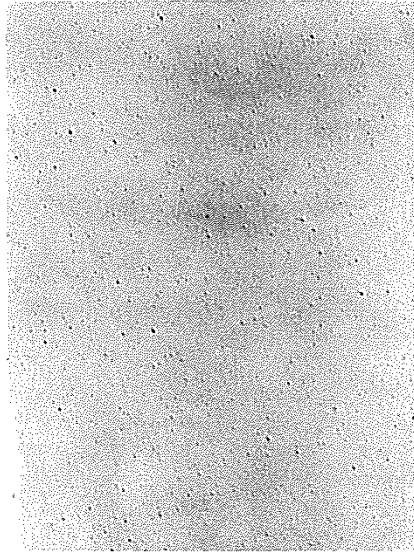


Dense

FIG. 4 (continued)



Few



Medium

FIG. 4 Blister size No. 8



Designation: D 3359 – 02

## Standard Test Methods for Measuring Adhesion by Tape Test<sup>1</sup>

This standard is issued under the fixed designation D 3359; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the Department of Defense.*

### 1. Scope

1.1 These test methods cover procedures for assessing the adhesion of coating films to metallic substrates by applying and removing pressure-sensitive tape over cuts made in the film.

1.2 Test Method A is primarily intended for use at job sites while Test Method B is more suitable for use in the laboratory. Also, Test Method B is not considered suitable for films thicker than 5 mils (125 $\mu$ m).

NOTE 1—Subject to agreement between the purchaser and the seller, Test Method B can be used for thicker films if wider spaced cuts are employed.

1.3 These test methods are used to establish whether the adhesion of a coating to a substrate is at a generally adequate level. They do not distinguish between higher levels of adhesion for which more sophisticated methods of measurement are required.

NOTE 2—It should be recognized that differences in adherability of the coating surface can affect the results obtained with coatings having the same inherent adhesion.

1.4 In multicoat systems adhesion failure may occur between coats so that the adhesion of the coating system to the substrate is not determined.

1.5 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.6 *This standard does not purport to address the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

D 609 Practice for Preparation of Cold-Rolled Steel Panels for Testing Paint, Varnish, Conversion Coatings, and

#### Related Coating Products<sup>2</sup>

D 823 Practices for Producing Films of Uniform Thickness of Paint, Varnish, and Related Products on Test Panels<sup>2</sup>

D 1000 Test Method For Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications<sup>3</sup>

D 1730 Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting<sup>4</sup>

D 2092 Guide for Preparation of Zinc-Coated (Galvanized) Steel Surfaces for Painting<sup>5</sup>

D 2370 Test Method for Tensile Properties of Organic Coatings<sup>2</sup>

D 3330 Test Method for Peel Adhesion of Pressure-Sensitive Tape<sup>6</sup>

D 3924 Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials<sup>2</sup>

D 4060 Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser<sup>2</sup>

### 3. Summary of Test Methods

3.1 *Test Method A*—An X-cut is made through the film to the substrate, pressure-sensitive tape is applied over the cut and then removed, and adhesion is assessed qualitatively on the 0 to 5 scale.

3.2 *Test Method B*—A lattice pattern with either six or eleven cuts in each direction is made in the film to the substrate, pressure-sensitive tape is applied over the lattice and then removed, and adhesion is evaluated by comparison with descriptions and illustrations.

### 4. Significance and Use

4.1 If a coating is to fulfill its function of protecting or decorating a substrate, it must adhere to it for the expected service life. Because the substrate and its surface preparation (or lack of it) have a drastic effect on the adhesion of coatings, a method to evaluate adhesion of a coating to different substrates or surface treatments, or of different coatings to the

<sup>1</sup> These test methods are under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee D01.23 on Physical Properties of Applied Paint Films.

Current edition approved Aug. 10, 2002. Published October 2002. Originally published as D 3359 – 74. Last previous edition D 3359 – 97.

<sup>2</sup> *Annual Book of ASTM Standards*, Vol 06.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 10.01.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 02.05.

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 06.02.

<sup>6</sup> *Annual Book of ASTM Standards*, Vol 15.09.

results with the adhesion rating(s). If the adhesion strength of the tape has not been determined, report the specific tape used and its manufacturer.

8.5 If the test is performed after immersion, report immersion conditions and method of sample preparation.

### 9. Precision and Bias<sup>8</sup>

9.1 In an interlaboratory study of this test method in which operators in six laboratories made one adhesion measurement on three panels each of three coatings covering a wide range of adhesion, the within-laboratories standard deviation was found to be 0.33 and the between-laboratories 0.44. Based on these standard deviations, the following criteria should be used for judging the acceptability of results at the 95 % confidence level:

9.1.1 *Repeatability*—Provided adhesion is uniform over a large surface, results obtained by the same operator should be considered suspect if they differ by more than 1 rating unit for two measurements.

9.1.2 *Reproducibility*—Two results, each the mean of triplicates, obtained by different operators should be considered suspect if they differ by more than 1.5 rating units.

9.2 Bias cannot be established for these test methods.

### TEST METHOD B—CROSS-CUT TAPE TEST

#### 10. Apparatus and Materials

10.1 *Cutting Tool*<sup>9</sup>—Sharp razor blade, scalpel, knife or other cutting device having a cutting edge angle between 15 and 30° that will make either a single cut or several cuts at once. It is of particular importance that the cutting edge or edges be in good condition.

10.2 *Cutting Guide*—If cuts are made manually (as opposed to a mechanical apparatus) a steel or other hard metal straight-edge or template to ensure straight cuts.

10.3 *Rule*—Tempered steel rule graduated in 0.5 mm for measuring individual cuts.

10.4 *Tape*, as described in 5.3.

10.5 *Rubber Eraser*, on the end of a pencil.

10.6 *Illumination*, as described in 5.5.

10.7 *Magnifying Glass*—An illuminated magnifier to be used while making individual cuts and examining the test area.

#### 11. Test Specimens

11.1 Test specimens shall be as described in Section 6. It should be noted, however, that multitip cutters<sup>10</sup> provide good results only on test areas sufficiently plane that all cutting edges contact the substrate to the same degree. Check for flatness with a straight edge such as that of the tempered steel rule (10.3).

<sup>8</sup> Supporting data are available from ASTM International Headquarters. Request RR: D01-1008.

<sup>9</sup> Multiblade cutters are available from a few sources that specialize in testing equipment for the paint industry. One supplier that has assisted in the refinement of these methods is given in footnote 10.

<sup>10</sup> The sole source of supply of the multitip cutter for coated pipe surfaces known to the committee at this time is Paul N. Gardner Co., 316 NE First St., Pompano Beach, FL 33060. If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,<sup>1</sup> which you may attend.

#### 12. Procedure

12.1 Where required or when agreed upon, subject the specimens to a preliminary test before conducting the tape test (see Note 3). After drying or testing the coating, conduct the tape test at room temperature as defined in Specification D 3924, unless D 3924 standard temperature is required or agreed.

12.1.1 For specimens which have been immersed: After immersion, clean and wipe the surface with an appropriate solvent which will not harm the integrity of the coating. Then dry or prepare the surface, or both, as agreed upon between the purchaser and the seller.

12.2 Select an area free of blemishes and minor surface imperfections, place on a firm base, and under the illuminated magnifier, make parallel cuts as follows:

12.2.1 For coatings having a dry film thickness up to and including 2.0 mils (50 μm) space the cuts 1 mm apart and make eleven cuts unless otherwise agreed upon.

12.2.2 For coatings having a dry film thickness between 2.0 mils (50 μm) and 5 mils (125 μm), space the cuts 2 mm apart and make six cuts. For films thicker than 5 mils use Test Method A.<sup>11</sup>

12.2.3 Make all cuts about 20 mm (¾ in.) long. Cut through the film to the substrate in one steady motion using just sufficient pressure on the cutting tool to have the cutting edge reach the substrate. When making successive single cuts with the aid of a guide, place the guide on the uncut area.

12.3 After making the required cuts brush the film lightly with a soft brush or tissue to remove any detached flakes or ribbons of coatings.

12.4 Examine the cutting edge and, if necessary, remove any flat spots or wire-edge by abrading lightly on a fine oil stone. Make the additional number of cuts at 90° to and centered on the original cuts.

12.5 Brush the area as before and inspect the incisions for reflection of light from the substrate. If the metal has not been reached make another grid in a different location.

12.6 Remove two complete laps of tape and discard. Remove an additional length at a steady (that is, not jerked) rate and cut a piece about 75 mm (3 in.) long.

12.7 Place the center of the tape over the grid and in the area of the grid smooth into place by a finger. To ensure good contact with the film rub the tape firmly with the eraser on the end of a pencil. The color under the tape is a useful indication of when good contact has been made.

12.8 Within 90 ± 30 s of application, remove the tape by seizing the free end and rapidly (not jerked) back upon itself at as close to an angle of 180° as possible.

12.9 Inspect the grid area for removal of coating from the substrate or from a previous coating using the illuminated magnifier. Rate the adhesion in accordance with the following scale illustrated in Fig. 1:

<sup>11</sup> Test Method B has been used successfully by some people on coatings greater than 5 mils (0.13 mm) by spacing the cuts 5 mm apart. However, the precision values given in 14.1 do not apply as they are based on coatings less than 5 mm (0.13 mm) in thickness.

APPENDIX

(Nonmandatory Information)

X1. COMMENTARY

**X1.1 Introduction**

X1.1.1 Given the complexities of the adhesion process, can adhesion be measured? As Mittal (1)<sup>12</sup> has pointed out, the answer is both yes and no. It is reasonable to state that at the present time no test exists that can precisely assess the actual physical strength of an adhesive bond. But it can also be said that it is possible to obtain an indication of relative adhesion performance.

X1.1.2 Practical adhesion test methods are generally of two types: “*implied*” and “*direct*.” “Implied” tests include indentation or scribe techniques, rub testing, and wear testing. Criticism of these tests arises when they are used to quantify the strength of adhesive bonding. But this, in fact, is not their purpose. An “implied” test should be used to assess coating performance under actual service conditions. “Direct” measurements, on the other hand, are intended expressly to measure adhesion. Meaningful tests of this type are highly sought after, primarily because the results are expressed by a single discrete quantity, the force required to rupture the coating/substrate bond under prescribed conditions. Direct tests include the Hesiometer and the Adherometer (2). Common methods which approach the direct tests are peel, lap-shear, and tensile tests.

**X1.2 Test Methods**

X1.2.1 In practice, numerous types of tests have been used to attempt to evaluate adhesion by inducing bond rupture by different modes. Criteria deemed essential for a test to warrant large-scale acceptance are: use of a straightforward and unambiguous procedure; relevance to its intended application; repeatability and reproducibility; and quantifiability, including a meaningful rating scale for assessing performance.

X1.2.2 Test methods used for coatings on metals are: peel adhesion or “tape testing;” Gardner impact flexibility testing; and adhesive joint testing including shear (lap joint) and direct tensile (butt joint) testing. These tests do not strictly meet all the criteria listed, but an appealing aspect of these tests is that in most cases the equipment/instrumentation is readily available or can be obtained at reasonable cost.

X1.2.3 A wide diversity of tests methods have been developed over the years that measure aspects of adhesion (1-5). There generally is difficulty, however, in relating these tests to basic adhesion phenomena.

**X1.3 The Tape Test**

X1.3.1 By far the most prevalent test for evaluating coating “adhesion” is the tape-and-peel test, which has been used since the 1930’s. In its simplest version a piece of adhesive tape is pressed against the paint film and the resistance to and degree

of film removal observed when the tape is pulled off. Since an intact film with appreciable adhesion is frequently not removed at all, the severity of the test is usually enhanced by cutting into the film a figure *X* or a cross hatched pattern, before applying and removing the tape. Adhesion is then rated by comparing film removed against an established rating scale. If an intact film is peeled cleanly by the tape, or if it debonds just by cutting into it without applying tape, then the adhesion is rated simply as poor or very poor, a more precise evaluation of such films not being within the capability of this test.

X1.3.2 The current widely-used version was first published in 1974; two test methods are covered in this standard. Both test methods are used to establish whether the adhesion of a coating to a substrate is at an adequate level; however they do not distinguish between higher levels of adhesion for which more sophisticated methods of measurement are required. Major limitations of the tape test are its low sensitivity, applicability only to coatings of relatively low bond strengths, and non-determination of adhesion to the substrate where failure occurs within a single coat, as when testing primers alone, or within or between coats in multicoat systems. For multicoat systems where adhesion failure may occur between or within coats, the adhesion of the coating system to the substrate is not determined.

X1.3.3 Repeatability within one rating unit is generally observed for coatings on metals for both methods, with reproducibility of one to two units. The tape test enjoys widespread popularity and is viewed as “simple” as well as low in cost. Applied to metals, it is economical to perform, lends itself to job site application, and most importantly, after decades of use, people feel comfortable with it.

X1.3.4 When a flexible adhesive tape is applied to a coated rigid substrate surface and then removed, the removal process has been described in terms of the “peel phenomenon,” as illustrated in Fig. X1.1.

X1.3.5 Peeling begins at the “toothed” leading edge (at the right) and proceeds along the coating adhesive/interface or the coating/substrate interface, depending on the relative bond strengths. It is assumed that coating removal occurs when the tensile force generated along the latter interface, which is a function of the rheological properties of the backing and adhesive layer materials, is greater than the bond strength at the coating-substrate interface (or cohesive strength of the coating). In actuality, however, this force is distributed over a discrete distance (O-A) in Fig. X1.1, which relates directly to the properties described, not concentrated at a point (O) in Fig. X1.1 as in the theoretical case—though the tensile force is greatest at the origin for both. A significant compressive force arises from the response of the tape backing material to being stretched. Thus both tensile and compressive forces are involved in adhesion tape testing.

X1.3.6 Close scrutiny of the tape test with respect to the

<sup>12</sup> The boldface numbers in parentheses refer to the list of references at the end of this test method.



frequently observed. However, with the tape test, failures within the substrate or coating layers are rare because the tape adhesive is not usually strong enough to exceed the cohesive strengths of normal substrates and organic coatings. Although some rather brittle coatings may exhibit cohesive failure, the tape test adhesion method does not make provision for giving failure locality (7, 8).

X1.6.4 Use of the test method in the field can lead to

variation in test results due to temperature and humidity changes and their effect upon tape, coating and substrate.

#### X1.7 Conclusion

X1.7.1 All the issues aside, if these test methods are used within the Scope Section and are performed carefully, some insight into the approximate, relative level of adhesion can be gained.

### REFERENCES

- (1) Mittal, K. L., "Adhesion Measurement: Recent Progress, Unsolved Problems, and Prospects", "Adhesion Measurement of Thin Films, Thick Films, and Bulk Coatings," *ASTM STP 640*, ASTM, 1978, pp. 7-8.
- (2) Corcoran, E. M., "Adhesion," Chapter 5.3, *Paint Testing Manual*, 13th ed., *ASTM STP 500*, ASTM, 1972, pp. 314-332.
- (3) Gardner, H. A., and Sward, G. G., *Paint Testing Manual*, 12th ed., Chapter 7, Gardner Laboratory, Bethesda, MD, 1962, pp. 159-170.
- (4) Mittal, K. L., *Journal of Adhesion Science and Technology*, Vol 1, No. 3, 1987, pp. 247-259.
- (5) Stoffer, J. O., and Gadodia, S. K., *American Paint and Coatings Journal*, Vol 70, Nos. 50 and 51, 1991, pp. 36-40 and 36-51, respectively.
- (6) Souheng, Wu, *Polymer Interface and Adhesion*, Marcel Dekker, Inc., New York, NY, 1982, p. 531.
- (7) Nelson, G. L., Gray, K. N., and Buckley, S. E., *Modern Paint and Coatings*, Vol 75, No. 10, 1985, pp. 160-172.
- (8) Nelson, G. L., and Gray, K. N., "Coating Adhesion to Plastics," *Proceedings, Waterborne and Higher Solids Coatings Symposium*, Vol 13, New Orleans, LA, February 5-7, 1986, pp. 114-131.
- (9) K. L. Mittal, ed., "Symposium on Adhesion Aspects of Polymeric Coatings," *Proceedings*, The Electrochemical Society, 1981, pp. 569-582.

### SUMMARY OF CHANGES

Committee D01 has identified the location of selected changes to this standard since the last issue (D 3359 - 97) that may impact the use of this standard.

- (1) Deleted reference to Test Method D 2197 in Referenced Documents section and editorially changed footnote 10 to avoid confusion with another adhesion test method.
- (2) Added 7.1.1, 8.5, 12.1.1, and 13.4 to clarify use when testing samples that have been immersed.

*ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.*

*This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.*

*This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).*



---

Appendix C  
Copy of Dive DVD

---

## Appendix D

Copy of Photograph DVD

---

## Appendix E

### Lab Test Results (High Tank)

**CORROSION CONTROL CONSULTANTS & LABS, INC. a GPI company**

**ANALYTICAL LABORATORY REPORT**

Monday, December 28, 2015

Page 1 of 2

**CUSTOMER:** SEH, Inc.  
3535 Vadnais Center Dr  
St. Paul, MN 55110

**DATE RECEIVED:** Monday, December 21, 2015  
**PO/PROJECT #:** MIDCO 135136  
**SUBMITTAL #:** 2015-12-21-010

**LAB NUMBER: AC06369**

**Sampled By:** Christopher Wolfram  
**Job Location:** Spring Creek, NV  
**Sample Identification:** 1 - 500K GSR - Holiday Dr - Exterior

**Date Sampled:** Wednesday, December 9, 2015  
**Sample Description:** Paint Chips

**Preparation Method:** EPA 3050B-P-M (Acid Digestion for Paints)  
**Analysis Method:** EPA 6010C (ICP-AES Method for Determination of Metals)  
**Date Analyzed:** Tuesday, December 22, 2015

<u>ELEMENT</u>	<u>RESULT (bv dry weight)</u>	<u>REPORTING LIMIT (RL)</u>
Arsenic	< RL	0.0050 %
Barium	0.018 %	0.013 %
Cadmium	< RL	0.00075 %
Chromium	0.53 %	0.0013 %
Lead	3.8 %	0.0025 %
Selenium	< RL	0.0050 %
Silver	< RL	0.0013 %

CCC&L has obtained accreditation under the programs detailed on the final page of the laboratory report. The accreditations pertain only to the testing performed for the elements, and in accordance with the test methods, listed in the scope of accreditation table. Testing which is performed by CCC&L according to other test methods, or for elements which are not included in the table fall outside of the current scope of laboratory accreditation.

This report shall not be reproduced except in full, without written approval of CCC&L.

### CHAIN OF CUSTODY FORM

Send To:

**Corrosion Control Consultants & Labs, Inc. a GPI company**

4403 Donker Ct Kentwood MI 49512-4054

ph: 616-940-3112 fx: 616-940-8139 web-sites: www.ccclabs.com www.gpinet.com

Company: Short Elliot Hendrickson Inc. Address: 3535 Vadnais Center Drive St. Paul, MN 55110		Company Contact: Christopher Wolfram Telephone: (651) 318-0360 E-Mail: cwolfram@sehinc.com	
P.O./Proj #: MIDCO 135136 Job Location: Spring Creek, NV			
MATRIX		TOTAL CONCENTRATION	
<input checked="" type="checkbox"/> PAINT CHIPS	<input type="checkbox"/> LEAD	<input type="checkbox"/> pH (Corrosivity)	MISC. TESTS <input type="checkbox"/> Ignitability <input type="checkbox"/> VOC (Method 24) <input type="checkbox"/> Other
<input type="checkbox"/> SOIL	<input type="checkbox"/> LEAD, CAD, CHROME	<input type="checkbox"/> RCRA (8) METALS	
<input type="checkbox"/> SPENT ABRASIVE	<input checked="" type="checkbox"/> RCRA (8) METALS	<input type="checkbox"/> OTHER	
<input type="checkbox"/> WIPE brand	<input type="checkbox"/> OTHER	<input type="checkbox"/> Other	
<input type="checkbox"/> WASTEWATER	WASTE CHARACTERIZATION		TURNAROUND TIME <input type="checkbox"/> Same Day* <input type="checkbox"/> 1 Day (24 Hour)* <input checked="" type="checkbox"/> Standard (2-4 days) <input type="checkbox"/> Other
<input type="checkbox"/> 37 mm CASSETTE	<input type="checkbox"/> LEAD TCLP	<input type="checkbox"/> RCRA (8) METALS TCLP	
<input type="checkbox"/> TSP FILTER	<input type="checkbox"/> OTHER	<input type="checkbox"/> OTHER	
<input type="checkbox"/> PM 10 FILTER			
<input type="checkbox"/> OTHER			

CCC&L accepts Visa, MasterCard, and American Express. Please call for information.

CCC&L Lab No.	Sample Number	Date/Time Sampled	Sample Identification/Location		WIPES		AIR SAMPLES	
			Area wiped (sq.ft.)	TIME START STOP	FLOW RATE START STOP	UNITS		
ALC 5366	1	12/9/15 @ 11:15 AM	500K GSR - Holiday Dr - Exterior					

\*Same Day and 1 Day turn around not available for TCLP or PM10; additional fees may apply, contact lab for pricing.

FOR LAB USE ONLY

Properly Contained     No     N/A  
 ASTM E1792 wipes     No     N/A  
 Adequate Cooling     No     N/A  
 Adequate pH Adjustment     No     N/A  
 Lab Acidified: By/Date    N/A

Special Instructions: *\*Sample not cooled for 48 hr 12/21/15*

Signature: \_\_\_\_\_ Date Submitted: 15 December 2015  
 Relinquished Date/Time: \_\_\_\_\_  
 Relinquished Date/Time: \_\_\_\_\_

Method of Shipment: USPS Date/Time: 12/21/15 16:15  
 Received for Laboratory by: Tobias Gussenhauer Submittal #: 2015-12-21-010 Form #53

# CCC&L Corrosion Control Consultants and Labs, Inc.

a GPI company  
**ANALYTICAL LABORATORY REPORT**

Monday, December 28, 2015 Page 1 of 1

**CLIENT:** SEH, Inc. - St. Paul  
3535 Vadnais Center Dr  
St. Paul, MN 55110

**DATE RECEIVED:** Monday, December 21, 2015  
**DATE COMPLETED:** Wednesday, December 23, 2015  
**PO/PROJECT #:** MIDCO  
**SUBMITTAL #:** 975

**Method:** EPA 7471B (Mercury in Solid or Semisolid Waste -- Manual Cold-Vapor Technique)

**LAB NUMBER:** AC 06369

**Sampled By:** Christopher Wolfgram  
**Job Location:** Spring Creek, NV  
**Sample Identification:** 500K GSR - Holiday Dr - Exterior

**Date Sampled:** Wednesday, December 09, 2015  
**Sample Description:** Paint Chips

ELEMENT	RESULT (by weight)	REPORTING LIMIT
Mercury	0.000025 %	0.000025 %

**Flagged Data** Sample results for Mercury are not recognized under the AIHA laboratory accreditation program. Sample integrity suspect upon receipt. (Sample Not Received on Ice).

Unless Otherwise Noted: 1.) All Of The Quality Control Meets The Requirements.

2.) The Condition Of Each Sample Was Acceptable Upon Receipt

**Test Reviewed By:** Jason Kraai, Senior Analyst

\*Not Detected At The Reporting Limit

This Report Shall Not Be Reproduced Except In Full, Without Written Approval Of The Laboratory.  
Individual Sample Results Relate Only To The Sample As Received By The Laboratory.

---

## Appendix F

Midco Diving & Marine Services, Inc. Ultrasonic Testing Reports



Diving & Marine Services, Inc.

**Diagram Report**  
**From The Ultrasonic Testing of the**  
**High Tank**  
**Spring Creek Utilities Company**  
**Spring Creek, NV**



**By**  
**Midco Diving & Marine Services, Inc.**

800.479.1558

[www.midcodiving.com](http://www.midcodiving.com)

[info@midcodiving.com](mailto:info@midcodiving.com)

Home Office P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

Regional Office P.O. Box 7396 Loveland, Colorado 80537 970-532-2128



## SPRING CREEK UTILITIES COMPANY

**JOB NUMBER:** 10676  
**UTILITY:** Spring Creek Utilities Company  
**DATE:** December 11, 2015  
**MANAGER:** Tim Scheidt  
**ADDRESS:** 448 Tonka Lane #3  
Spring Creek, NV 89815

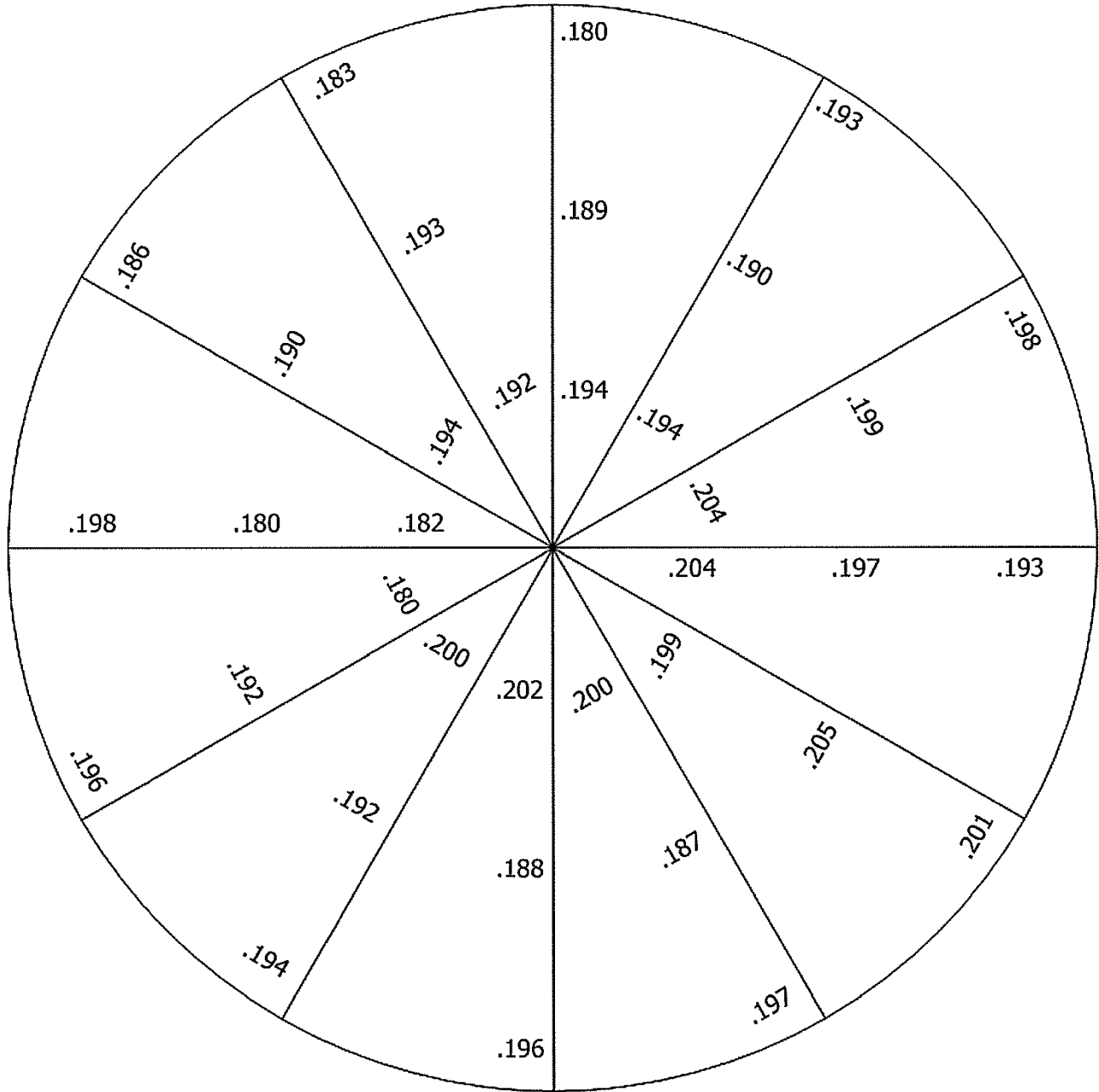
**DIVE TEAM LEADER:** Christopher Starnes

**Reservoir:** High Tank  
**Gallons:** 500 KG  
**Dimensions:** 50' X 30'  
**Water Depth:** 26'  
**Construction:** Steel Welded  
**Date Built:** Unknown  
**Last Cleaned:** Unknown  
**Last Inspected:** 2014

800.479.1558  
www.midcodiving.com  
info@midcodiving.com  
Home Office P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030  
Regional Office P.O. Box 7396 Loveland, Colorado 80537 970-532-2128

ROOF

12



9

11

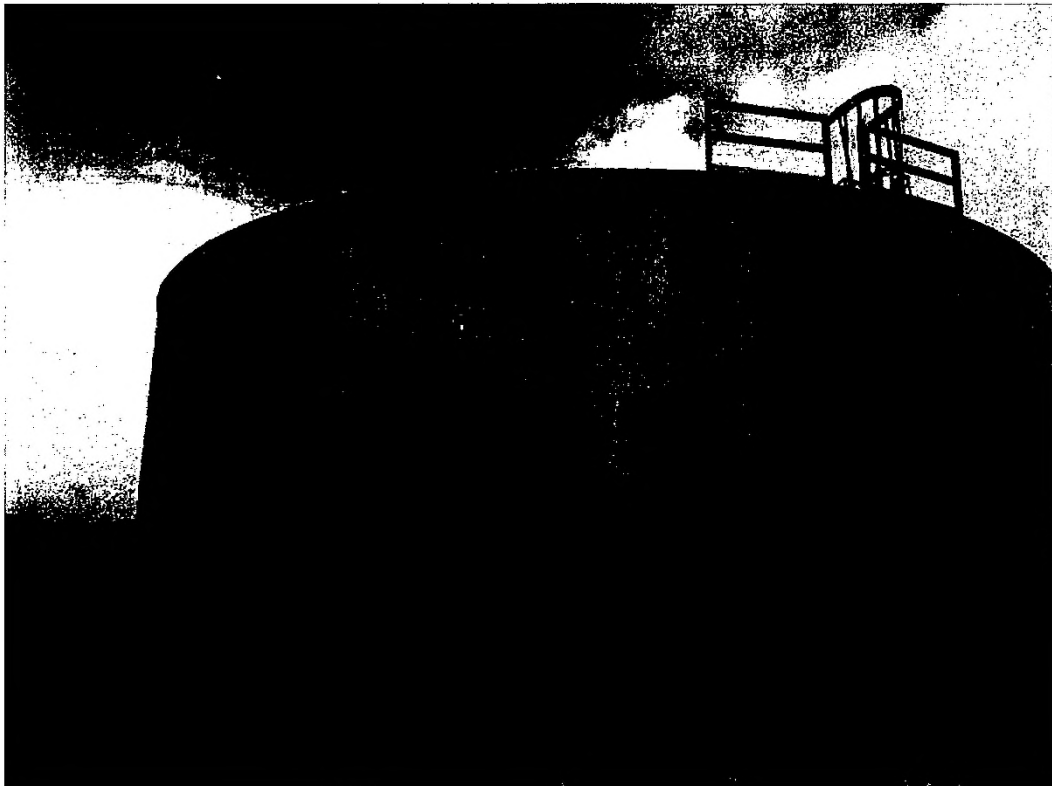
6

800.479.1558  
www.midcodiving.com  
info@midcodiving.com  
Home Office P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030  
Regional Office P.O. Box 7396 Loveland, Colorado 80537 970-532-2128



Diving & Marine Services, Inc.

**Diagram Report  
From The Ultrasonic Testing of the  
Tank B  
Spring Creek Utilities Company  
Spring Creek, NV**



**By  
Midco Diving & Marine Services, Inc.**

800.479.1558

[www.midcodiving.com](http://www.midcodiving.com)

[info@midcodiving.com](mailto:info@midcodiving.com)

Home Office P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

Regional Office P.O. Box 7396 Loveland, Colorado 80537 970-532-2128

## SPRING CREEK UTILITIES COMPANY

**JOB NUMBER:** 10676  
**UTILITY:** Spring Creek Utilities Company  
**DATE:** December 11, 2015  
**MANAGER:** Tim Scheidt  
**ADDRESS:** 448 Tonka Lane #3  
Spring Creek, NV 89815

**DIVE TEAM LEADER:** Christopher Starnes

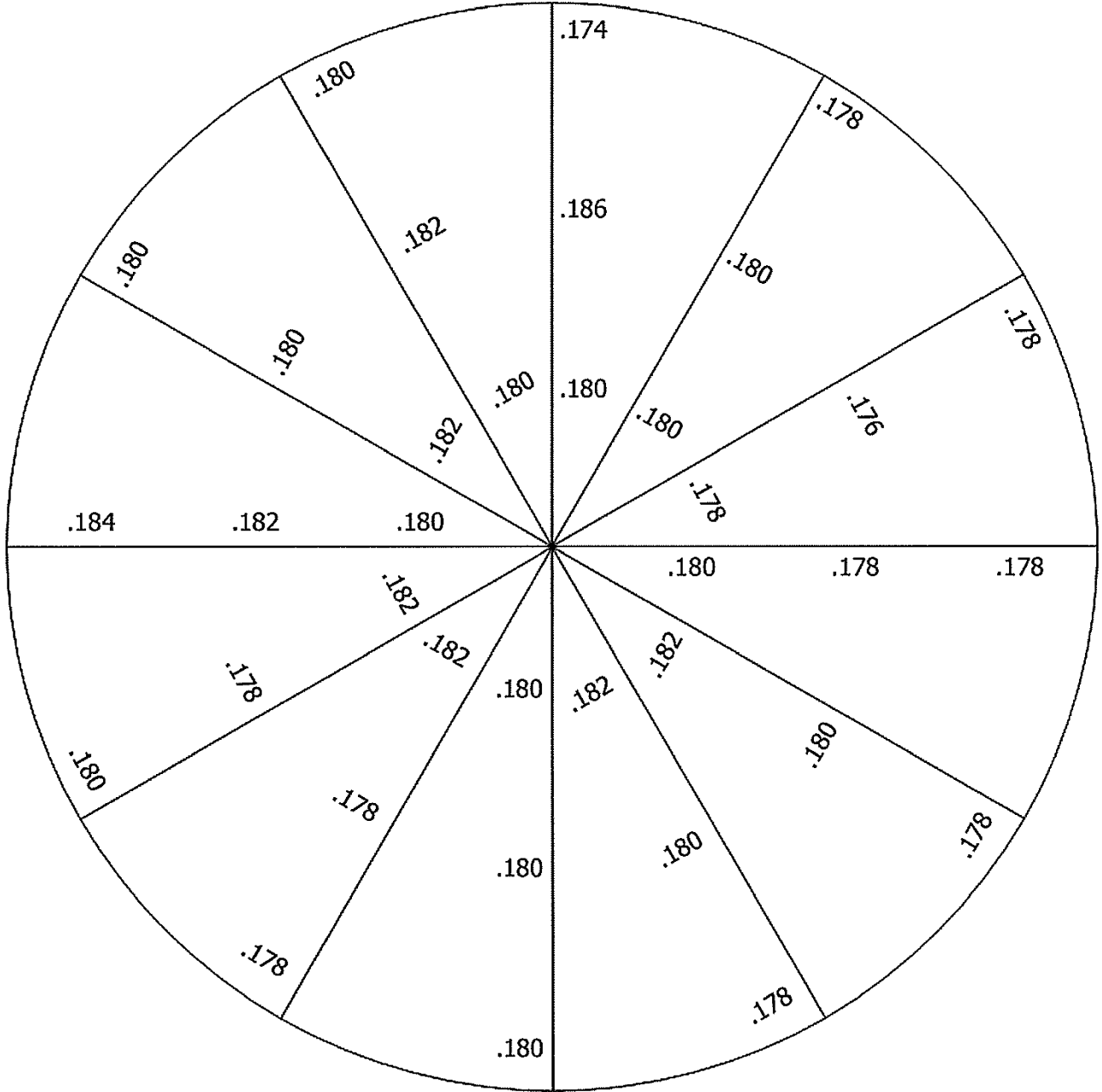
**Reservoir:** Tank B  
**Gallons:** 500 KG  
**Dimensions:** 60' X 30'  
**Water Depth:** 27'  
**Construction:** Steel Welded  
**Date Built:** Unknown  
**Last Cleaned:** Unknown  
**Last Inspected:** 2014

800.479.1558  
[www.midcodiving.com](http://www.midcodiving.com)  
[info@midcodiving.com](mailto:info@midcodiving.com)

Home Office P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030  
Regional Office P.O. Box 7396 Loveland, Colorado 80537 970-532-2128

ROOF

12



800.479.1558

[www.midcodiving.com](http://www.midcodiving.com)

[info@midcodiving.com](mailto:info@midcodiving.com)

Home Office P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

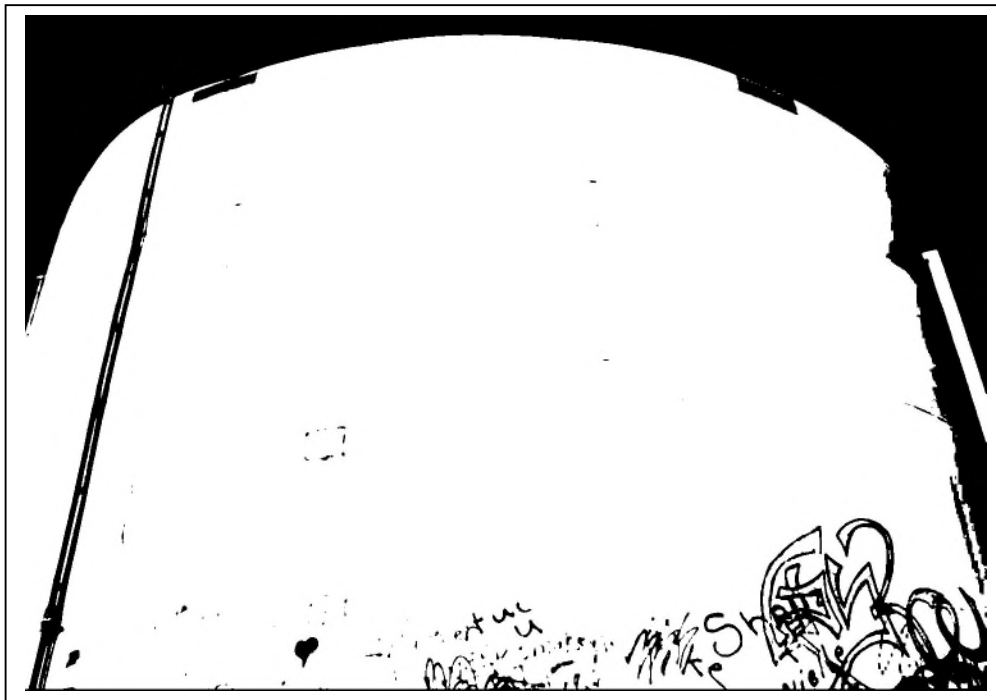
Regional Office P.O. Box 7396 Loveland, Colorado 80537 970-532-2128



---

---

**Inspection Report for  
Spring Creek Utilities Company  
Spring Creek, NV**



**500KG Steel On-Grade  
High Tank**

**Date Completed: July 24, 2014**

**Commercial Dive Team:**

**Diver -Dave Scott  
Dive Controller -Jeff Roberts  
Tender -Dustin Windell**

## **Scope of Work:**

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 ladder was found secure and in fair condition with de-lamination, oxidation and 2% surface corrosion noted. The cable is loose and must be tightened to make it OSHA approved.
3. The roof was found in fair condition with low spots, checks & cracks in the coating, de-lamination, heavy oxidation and 2% surface corrosion noted.
4. The hatch was found locked with no gasket present and in fair condition with oxidation and 100% corrosion noted.
5. The wall was found in fair condition with sags & runs in the coating, de-lamination, oxidation, graffiti and 5% surface corrosion noted.
6. The exposed section of the overflow was found in fair condition with de-lamination, oxidation and 2% surface corrosion noted.
7. The vents were found in fair condition with de-lamination, oxidation and 5% surface corrosion noted.
8. The base of the tank was found in good condition with signs of washout under the floor of the tank.

### **Interior Inspection**

1. The common inlet/outlet was found in fair condition with pitting and 33% rust noduling noted.
2. The manway was found in fair to poor condition with cracking, pitting and 25% rust noduling noted.
3. The overflow was found in fair to poor condition with 100% rust noduling & surface corrosion noted.
4. The interior wall was found in fair to poor condition with de-lamination of the coating, cracking, pitting and 40% rust noduling & surface corrosion noted.
5. The interior roof was found in fair to poor condition with 100% concentrated cell corrosion & surface corrosion noted.
6. The drain was found in fair to poor condition with 100% rust noduling & surface corrosion noted.
7. The support columns were found in fair condition with cracking, pitting and 33% rust noduling & surface corrosion noted.
8. The floor could not be fully evaluated because of the amount of sediment present but it appeared to be in fair condition with pitting and corrosion noted. Approximately ½ inch of sand was present.

## **Recommendations:**

1. Because of all the metal loss and coating failure noted throughout the tank, it is recommended that you decommission and replace the tank.

## **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: Poor  
 Corrosion Present? Y  N   
 Seams/Welds Condition: Fair  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Stand Off Supports Condition: Good  
 Safety Climb Type: Cage & Cable Grab  
 Safety Climb Condition: Fair  
 Is Top Of Tank Easily Accessible? Y  N   
 Is Ladder and Safety Climb **OSHA** Approved? Y  N

Summary: The ladder was found secure and in fair condition with de-lamination, oxidation and 2% surface corrosion noted. The cable is loose and must be tightened to make it OSHA approved.



### 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  
 Hatch Locked? Y  N   
 Hinge Condition: Good  
 Gasket Present? Y  N   
 Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with no gasket present and in fair condition with oxidation and 100% corrosion noted.

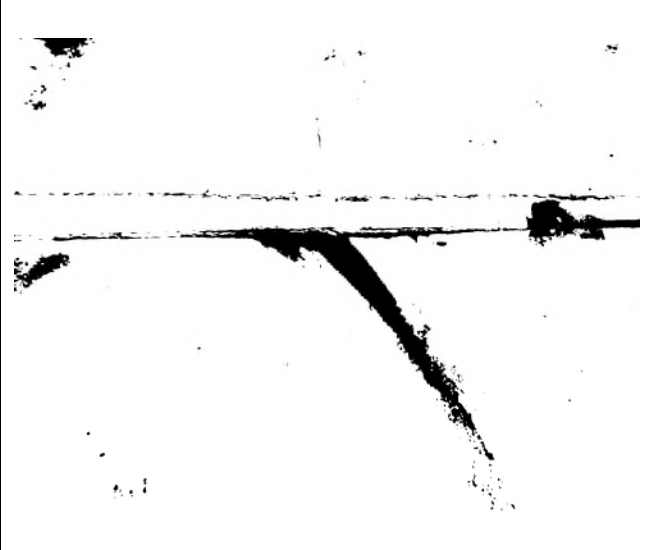




### Roof Condition

Coating Condition: Poor  
 Corrosion Present? Y  N   
 Percentage: 2%  
 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 fair condition with low spots, checks & cracks in the coating, de-lamination, heavy oxidation and 2% surface corrosion noted.



### Wall Panel Condition

Coating Condition: Poor  
 Corrosion Present? Y  N   
 Percentage:  
 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 fair condition with sags & runs in the coating, de-lamination, oxidation, graffiti and 5% surface corrosion noted.

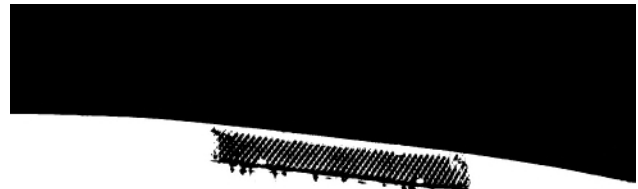


**Vent Condition**

Coating Condition: All Poor  
 Corrosion Present: Y  N   
 Percentage: 5%  
 Seams/Welds Condition: All Fair  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Screen in Place? Y  N   
 Condition: All Fair  
 All Openings Sealed? Y  N   
 Cap Condition: N/A

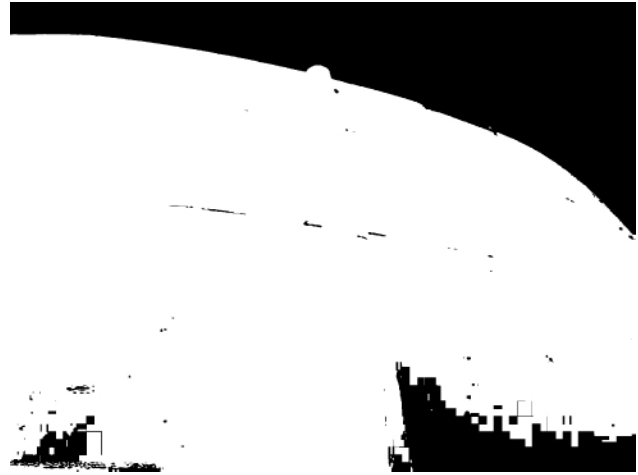
Summary: The vents were found in fair condition with de-lamination, oxidation and 5% surface corrosion noted.



**Overflow Structure Condition**

Coating Condition: Fair  
Corrosion Present? Y  N   
Percentage: 2%  
Seams/Welds Condition: Good  
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Stand Off Supports Condition: Good  
End Cap Present? Y  N   
Hinge And Cap Condition: N/A  
Screen Present? Y  N   
Condition: N/A

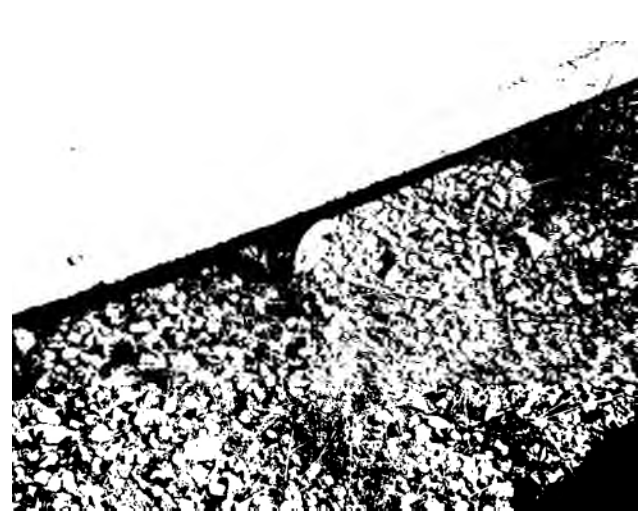
Summary: The exposed section of the overflow was found in fair condition with de-lamination, oxidation and 2% surface corrosion noted.



**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  N/A   
Spalling Noted? Y  N  N/A

Summary: The base of the tank was found in good condition with signs of washout under the floor of the tank.





# Inland Potable Services, Inc.

## Interior Inspection Report



### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N  Location: 2 o'clock

If No:

Outlet Location: N/A

Inlet Location: N/A

Coating Condition: Fair

Weld/Seam Condition: Good

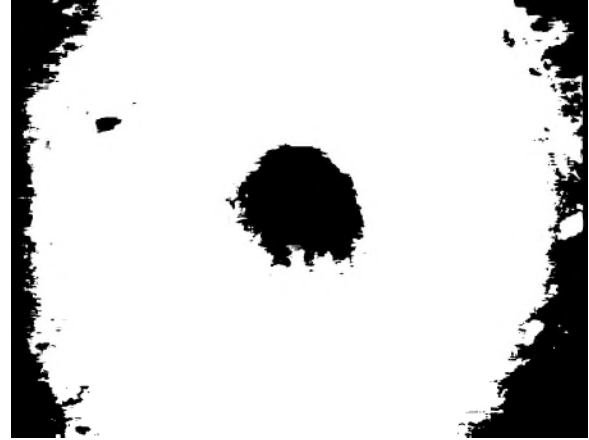
Corrosion Present? Y  N

Percentage: 33%

Pitting Noted In Metal? Y  N

Depth: 1/16 inch

Summary: The common inlet/outlet was found in fair condition with pitting and 33% rust noduling noted.



### Manway Condition

Manway Location: 11 o'clock

Coating Condition: Poor

Weld/Seam Condition: Fair

Corrosion Present? Y  N

Percentage: 25%

Pitting Noted In Metal? Y  N

Depth: 1/16 inch

Summary: The manway was found in fair to poor condition with cracking, pitting and 25% rust noduling noted.



### Overflow Condition

Overflow Location: 6 o'clock

Coating Condition: Poor

Weld/Seam Condition: Fair

Corrosion Present? Y  N

Percentage: 100%

Pitting Noted In Metal? Y  N

Depth: N/A

Summary: The overflow was found in fair to poor condition with 100% rust noduling & surface corrosion noted.

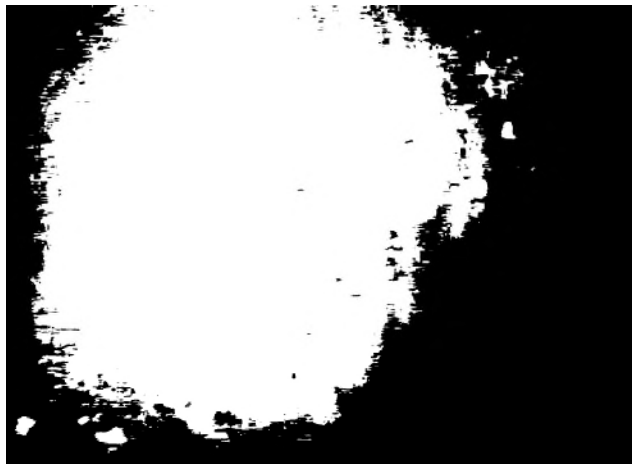
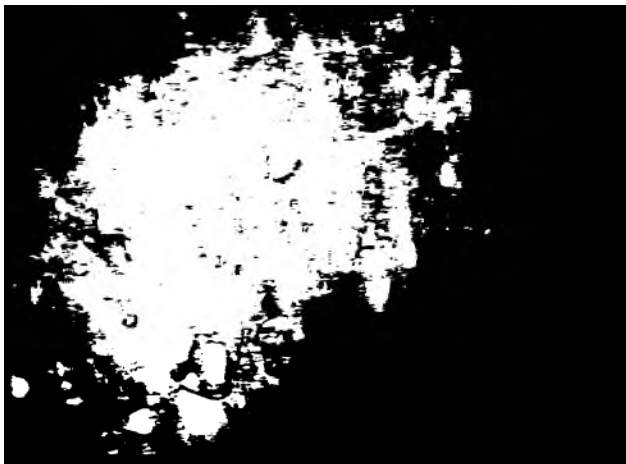
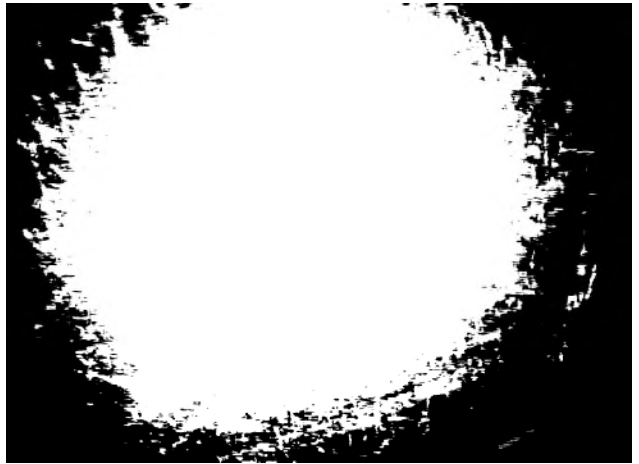


### Wall Panel Condition

Coating Condition: Poor  
Welds/seam Condition: Fair  
Corrosion Present On Panel? Y  N   
Percentage: 40%

Pitting Noted In Metal? Y  N   
Depth: 1/16 inch

Summary: The interior wall was found in fair to poor condition with de-lamination of the coating, cracking, pitting and 40% rust noduling & surface corrosion noted.



### Roof Condition

Coating Condition: N/A  
Welds/seam Condition: Good  
Corrosion Present On Panels? Y  N   
Percentage: 100%  
Metal De-alloying Noted? Y  N   
Percentage: N/A

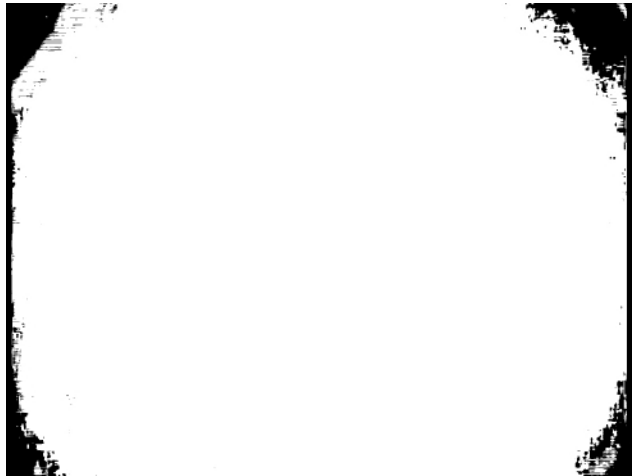
Summary: The interior roof was found in fair to poor condition with 100% concentrated cell corrosion & surface corrosion noted.



### Drain Condition

Drain Location: 6 o'clock  
Coating Condition: Poor  
Weld/Seam Condition: Fair  
Corrosion Present? Y  N   
Percentage: 100%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The drain was found in fair to poor condition with 100% rust noduling & surface corrosion noted.



**Support Column Condition**

Coating Condition: All Poor  
 Welds/seam Condition: All Fair  
 Corrosion Present? Y  N   
 Percent: 33%

Pitting Noted In Metal? Y  N   
 Depth: 1/16 inch

Summary: The support columns were found in fair condition with cracking, pitting and 33% rust noduling & surface corrosion noted.



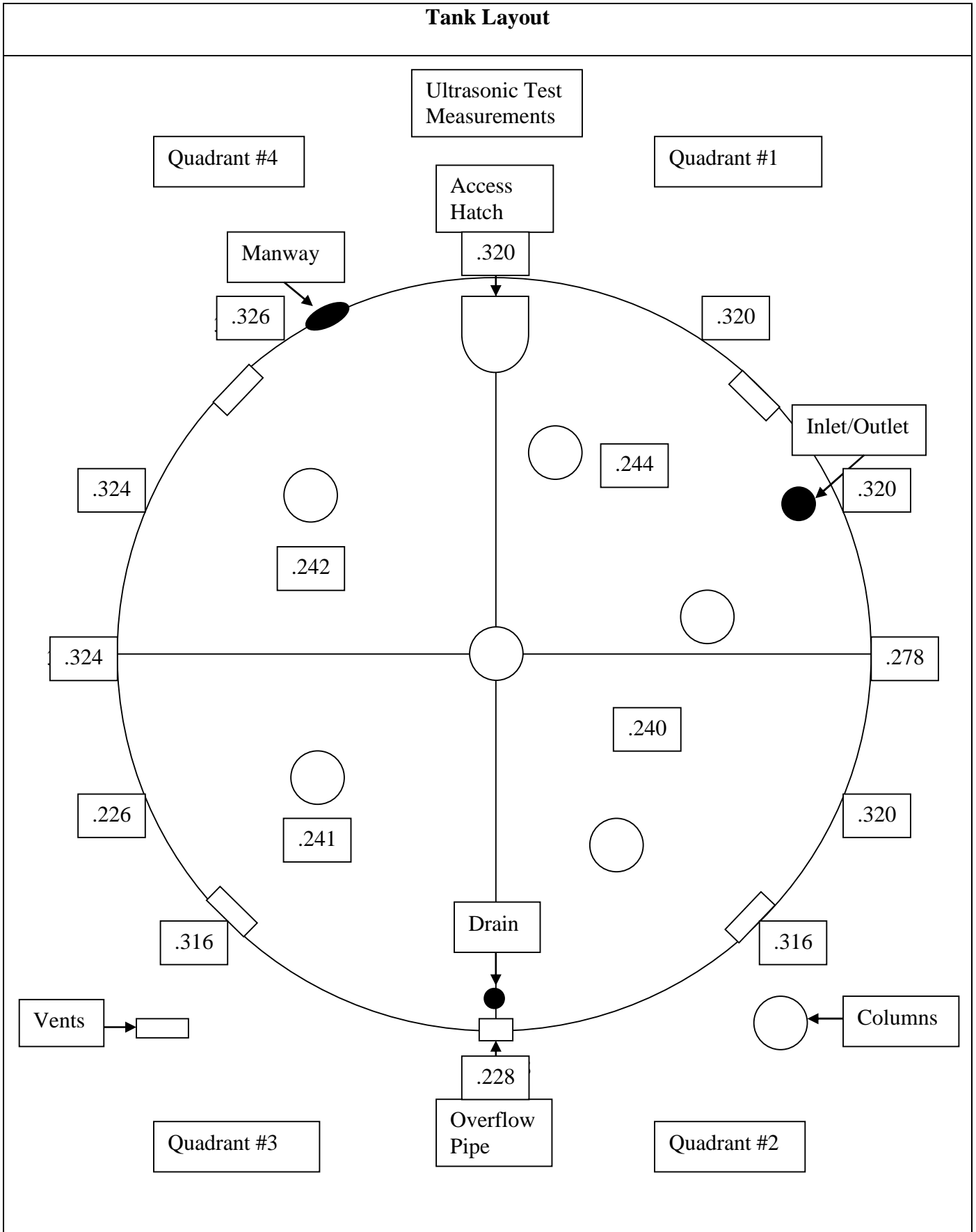
**Floor Condition**

Coating Condition: Poor  
 Welds/seam Condition: Fair  
 Corrosion Present? Y  N   
 Percentage: Unknown  
 Pitting Noted In Metal? Y  N   
 Depth: Unknown

Summary: The floor could not be fully evaluated because of the amount of sediment present but it appeared to be in fair condition with pitting and corrosion noted. Approximately 1/2 inch of sand was present.



# Tank Layout






# Tank Evaluation Field Report

## General Information

Project:	Water Tower Evaluation – 0.5MG High Tank Ground Storage Reservoir	
Project No.	MIDCO 135136	
Owner:	Spring Creek Utilities Company	
Contact:	Tim Scheidt	
Address:	448 Tonka Lane, Unit #3, Spring Creek, NV 89815	
Evaluation Date:	December 9, 2015	Chris Wolfgram (NACE No. 59021/CWI No. 15032481)

### Site

Address:	764 Holiday Drive, Spring Creek, NV 89815
Description: 	North: Open
	South: Open
	East: Open
	West: Open
	Security: Perimeter Fence with Barbed Wire
	Obstructions: None
	Overflow Discharge Orientation: Northeast
	Direction of Site Drainage: East

### Tank Information

Manufacturer: Unknown	Year Built: Approx. 1975	Contract No: N/A
-----------------------	--------------------------	------------------

Capacity (Gallons)	Construction		Height to Overflow (Feet)	Diameter (Feet)	Drawings
	Style	Type			
500,000	Ground Storage	Steel	25 Feet	50 Feet	N/A

### Coating Information

	INTERIOR WET	EXTERIOR
Date Last Painted	Unknown	Unknown
Painting Contractor	Unknown	Unknown
Total or Partial	Unknown	Unknown
Surface Preparation	Unknown	Unknown
Coating System	Coal Tar	Epoxy/Urethane
Coating Manufacturer	Unknown	Unknown

# Water Tank Evaluation Report

## 500,000 Gallon High Tank

Prepared for Spring Creek Utilities Company

### 1.0 Remaining Tank Life

SEH recommends that Spring Creek Utilities Company make consideration for decommissioning of this facility, based upon Information from our field evaluation process this facility is not recommended for rehabilitation. Based on the degree of material loss to corrosion in the tank surfaces, SEH recommends replacement of this facility.

Ultrasound measurements of the tank floor, shell walls, and roof have resulted in unacceptable amounts of material loss based upon the assumed construction thicknesses as follows:

Location on Tank	Assumed Plate Thickness	Minimum Measured Thickness	Maximum Calculated Material Loss
Floor	1/4 (0.25) Inch	0.118 Inch	53%
Bottom Shell Ring	3/8 (0.375) Inch	0.174 Inch	54%
Center Shell Ring	5/16 (0.3125) Inch	0.152 Inch	51%
Upper Shell Ring	1/4 (0.25) Inch	0.140 Inch	44%
Roof Plates	1/4 (0.25) Inch	0.180 Inch	28%

### 2.0 Other Observed Deficiencies

Based on the information obtained during our Field Evaluation Process we note the following deficiencies in addition to material loss to corrosion:

#### 2.1 Structural

##### 2.1.1 Exterior Structural

1. The existing perimeter roof vents (8 Each) are not AWWA frost-free design roof vents and allow for foreign objects, insects, and debris to enter the tank
2. The existing level indicator system is inoperable
3. The tank does not currently have manways in compliance with AWWA and OSHA confine space guidelines
4. The existing overflow discharge does not have an air-gap between the tank and where the existing overflow enters the ground adjacent to the tank
5. No splash box is present at the overflow discharge
6. The bottom steel flange at the footing is damaged in multiple locations.

## 2.2 Telecommunication

- SCADA system and solar power currently present on roof with no noted obstructions

## 2.3 Cathodic Protection

This tank is not equipped with a cathodic protection (CP) system.

## 2.4 Interior Coating

Based on the extent of observed coating failures as documented in the Coating Summary, and other deficiencies related to weld or plate finish, the coating system has surpassed its effective life cycle.

## 2.5 Exterior Coating

The general condition of the exterior coating system is poor, as based on the adhesion results as stated in the Coating Summary Report as well as other observed modes of failure. Based on this assessment, the tank exterior coating system has surpassed its effective life cycle.

## 3.0 Summary

### 3.1 Standard of Care

The conclusions and recommendations contained in this report were developed in accordance with generally accepted professional engineering practices at this time and location. Other than this, no warranty is implied or intended.

#### 3.1.1 Structural Evaluation

*Structural commentary under this section refers to the general condition of the foundation, and plate sections of the tank.*

Specific references to items requiring maintenance repair, replacement, or installations to provide code compliance are included in the Recommendation section of this report under *Interior or Exterior Structural*.

The surrounding area is level with the tank.

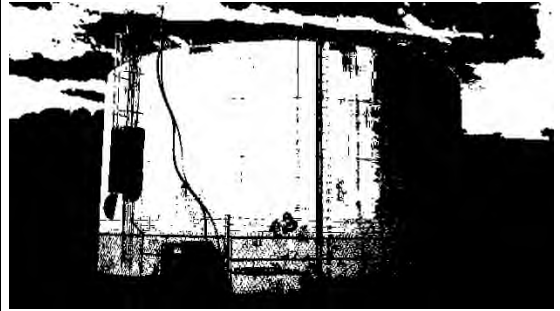
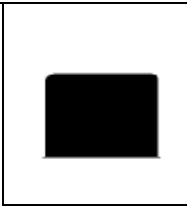
The footing is slightly below grade allowing for water to pond.

### 3.2 Coating Evaluation

Paint chips were extracted from the exterior surface of the tank. These samples were sent to Corrosion Control Consultants and Labs in Kentwood, Michigan for analysis of heavy metals with reference to current standards. On the sample taken from the tanks exterior, the results included (0.53%) chromium and (3.8%) lead. Since current federal and state regulations identifies "lead" based paint at 0.5% by weight, the exterior system would require provisions for any reconditioning to include lead abatement, and possible disposal of hazardous waste materials.

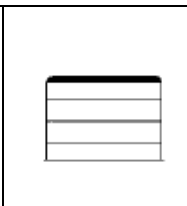
## Exterior Coating Summary

<b>Location:</b>	Exterior		
<b>Area:</b>	Shell		
<b>Adhesion:</b>	2A		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	0.90	15.8	7.6



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>			●		
<b>Peeling</b>			●		
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>			●		
<b>Comments:</b> Moderate rusting, cracking, peeling and delamination throughout, severe chalking throughout, various locations with observed damage from shotgun fire					

<b>Location:</b>	Exterior		
<b>Area:</b>	Roof		
<b>Adhesion:</b>	2A		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	3.0	8.1	5.9



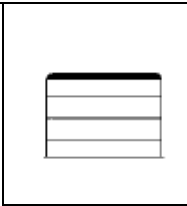
Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>	●				
<b>Delamination</b>				●	
<b>Comments:</b> Moderate rusting along edges and seams, severe chalking throughout, slight delamination in localized areas					

## Exterior Accessories

Exterior						
	Level	Condition	Agency Compliant	Comments		
Ladders	Shell	Fair	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Bent Rungs		
Ladder Cage	Shell	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	None		
Climb Device	Shell	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cable		
Handrail	Roof	Good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Angle		
	Level	Condition	Type	Size	Agency Compliant	Comments
Confined Space Entry					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Signage Present
Manways	Roof	Good	Hinged	20" x 22"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<24"
Manways	Roof	Good	Bolted	20"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<24"
Vent	Roof Edge	Fair	Screened	~36" x 6"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Mesh too large, not frost-free design
	Level	No.	Interference	Comments		
Antenna	Roof	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SCADA w/Solar Panel		
	Size	Type	Condition	Agency Compliant	Comments	
Overflow/Splash-pad	8" reduced to 6"	Screened	Poor	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No air-break <input checked="" type="checkbox"/> Termination <12" <input type="checkbox"/>	
	Condition			Comments		
Foundation/Footings	Good			Settlement <input type="checkbox"/> Cracks <input type="checkbox"/> Spalling <input type="checkbox"/> Grout: None		
Valve Pit	Good			SCADA <input checked="" type="checkbox"/> Altitude Valve <input checked="" type="checkbox"/> Heated Controls <input type="checkbox"/>		
	Level		Comments			
Paint Sample	Shell		0.53% Chromium, 3.8% Lead			

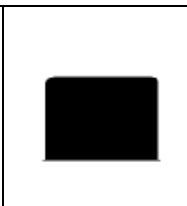
## Interior Coating Summary

<b>Location:</b>	Interior		
<b>Area:</b>	Roof		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	2.1	3.2	2.6



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>		●			
<b>Blistering</b>					●
<b>Cracking</b>					●
<b>Peeling</b>					●
<b>Pitting</b>					●
<b>Chalking</b>			●		
<b>Delamination</b>					●
<b>Comments:</b> Advanced rusting with moderate chalking throughout					

<b>Location:</b>	Interior		
<b>Area:</b>	Shell		
<b>Adhesion:</b>	-		
<b>Overall Condition:</b>	Poor		
<b>Dry Film Thickness:</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
	66.7	69.1	68.1



Condition	<i>Severe</i>	<i>Advanced</i>	<i>Moderate</i>	<i>Slight</i>	<i>None/NA</i>
<b>Rusting</b>			●		
<b>Blistering</b>					●
<b>Cracking</b>	●				
<b>Peeling</b>	●				
<b>Pitting</b>					●
<b>Chalking</b>			●		
<b>Delamination</b>			●		
<b>Comments:</b> Moderate rusting and chalking throughout, severe cracking and peeling throughout, moderate delamination in localized areas					

## Interior Accessories

Interior Wet					
Sediment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Depth</b>  <1/4"		Distributed evenly	<b>Removed:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, abandoned cleaning operation due to excessive corrosion
Sump Pit	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
		<b>Agency Compliant</b>	<b>Condition</b>	<b>Comment</b>	
Silt Stop	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Recirculation line: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Cathodic Protection</b>		<b>Type</b>		<b>Comments</b>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		N/A			

**Inspection Report for  
Great Basin Water Company  
Reno, NV**



East Side

West Side



North Side

South Side

**Spring Creek  
500KG Steel On-Grade  
Site 200 High Tank**

**Date Completed: May 18, 2019**

**Commercial Dive Team:**

**Diver – Cory Repasi  
Dive Controller – Nico LeBlanc  
Tender – James Strickland**



## Scope of Work:

A full visual inspection was performed of the tank interior and all interior fixtures. The floor was found in poor condition with heavy blistering, de-lamination, greater than 50% uniform surface corrosion and rust noduling noted. Due to the poor condition of the floor, the sediment, averaging 1 inch (iron and manganese), was not removed. There was also a large amount of debris present. 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 base of the tank was found in good condition.
3. The overflow was found in good condition with minor de-lamination and sags & runs in the coating noted.
4. The wall was found in good condition with minor sags & runs in the coating, moderate de-lamination, graffiti and 0.01% uniform surface corrosion noted.
5. The manway was found secure and in good condition with 0.01% uniform surface corrosion noted.
6. The water level indicator was found in good to fair condition with 50% uniform surface corrosion noted.
7. The ladder was found secure, OSHA approved and in good condition with minor de-lamination and 0.1% uniform surface corrosion noted.
8. The roof was found in good condition with moderate de-lamination and 0.03% uniform surface corrosion noted.
9. The hatch was found locked with a partial gasket present and in good to fair condition with heavy de-lamination and 0.1% uniform surface corrosion noted.
10. The eight vents were found in good condition.

### Key

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in poor condition with heavy de-lamination and greater than 50% uniform surface corrosion noted and ambient light shining through.
2. The overflow was found in fair condition with minor de-lamination and greater than 50% uniform surface corrosion noted.
3. The interior wall was found in poor condition with moderate to heavy cracking, heavy sags & runs in the coating, de-lamination and greater than 50% rust noduling noted.
4. The inlet was found in fair to poor condition with moderate de-lamination and greater than 50% rust noduling noted.
5. The outlet was found in poor condition with greater than 50% rust noduling noted.
6. The manway was found in fair to poor condition with moderate de-lamination and greater than 50% rust noduling noted but no signs of leaking present.
7. The floor was found in poor condition with heavy blistering, de-lamination, greater than 50% uniform surface corrosion and rust noduling noted. There was also a large amount of debris present.
8. The float was found in good condition, and working properly, with one of the guidelines off, heavy staining and 3% corrosion noted.
9. The six support columns were found secure and in fair to poor condition with moderate sags & runs in the coating, heavy cracking, de-lamination, 33% uniform surface corrosion and 50% rust noduling noted.

### **Recommendations:**

1. Schedule a blast and recoat of the interior as soon as budgets will allow. If, within 3 years, the recoating has not been completed, schedule a follow-up inspection as recommended by the AWWA.

### **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



### 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  N/A   
 Spalling Noted? Y  N  N/A

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



### Overflow Structure Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Excellent/Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: Good

Summary: The overflow was found in good condition with minor de-lamination and sags & runs in the coating noted.



### Wall Panel Condition

Coating Condition: Good  
Seams/Welds Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Dents Present? Y  N

Holes Present? Y  N   
Signs Of Leaking? Y  N

Summary: The wall was found in good condition with minor sags & runs in the coating, moderate de-lamination, graffiti and 0.01% uniform surface corrosion noted.



De-lamination



Graffiti



Graffiti

### Manway Condition

Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The manway was found secure and in good condition with 0.01% uniform surface corrosion noted.



Manway box

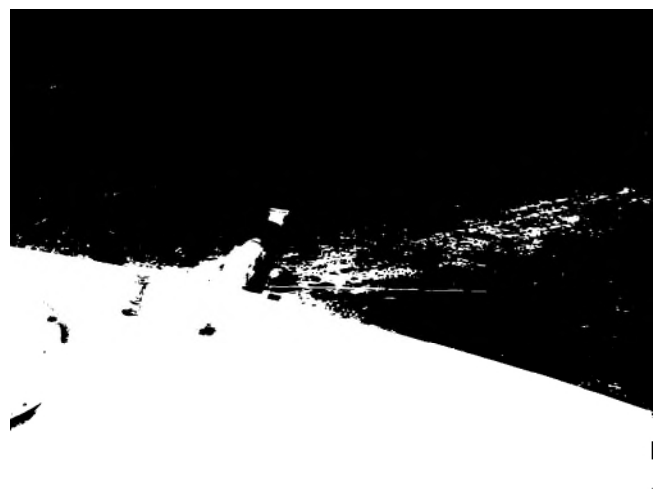
### Water Level Indicator Condition

Marker Condition: Good  
Attached & Accurate? Y  N   
Marker Board Condition: Good/Fair  
Is the level reading visible? Y  N   
Pulley Condition: Good  
Attached Properly? Y  N   
Cable Condition: Good  
Attached Properly? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N

Summary: The water level indicator was found in good to fair condition with 50% uniform surface corrosion noted.



Water level marker



Pulley on water level marker

### Access Ladder Condition

Ladder Type: Steel welded  
 Is Ladder and Safety Climb **OSHA** Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good

Stand Off Supports Condition: Excellent  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in good condition with minor de-lamination and 0.1% uniform surface corrosion noted.



Safety cage



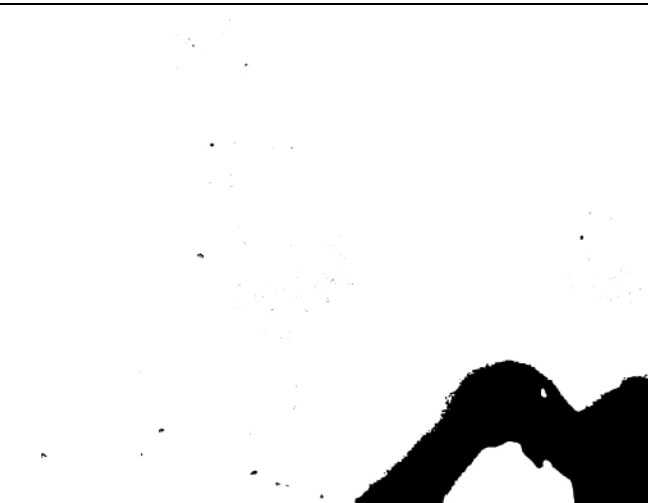
Top of safety cage

### Roof Condition

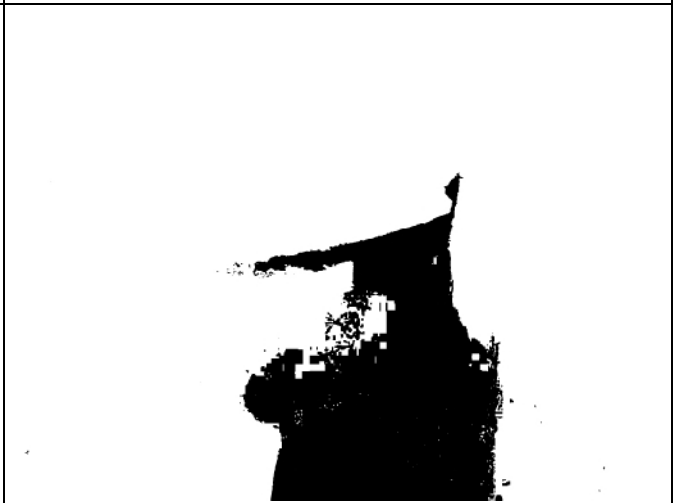
Roof Type: Flat  
 Coating Condition: Good/Fair  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Low Spots Present? Y  N   
 Holes in Roof? Y  N

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 moderate de-lamination and 0.03% uniform surface corrosion noted.



De-lamination



De-lamination



Antenna on roof



Graffiti

Roof Condition continued



Overall



Corrosion





### Access Hatch Condition

Coating Condition: Fair/Poor  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 2 foot x 2½ foot  
     Riser Height: 4 inches   Lid Height: 2 inches  
 Hatch Locked? Y  N   
 Hinge Condition: Good  
 Gasket Present? Y  N   
     Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

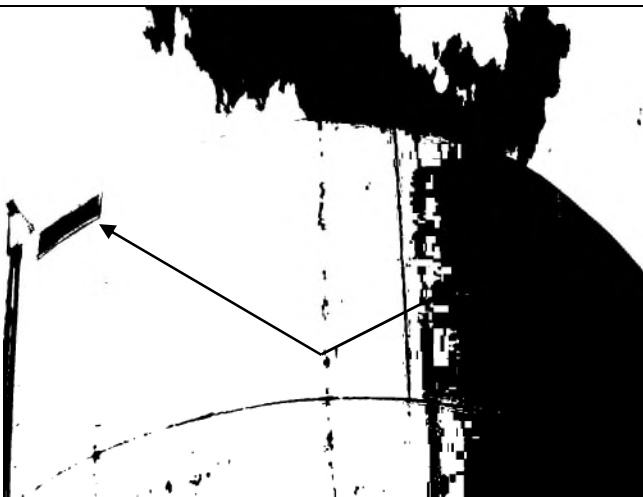
Summary: The hatch was found locked with a partial gasket present and in good to fair condition with heavy de-lamination and 0.1% uniform surface corrosion noted.



### Vent Condition

Coating Condition: All Good  
 Seams/Welds Condition: All Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 #24 Mesh Screen in Place? Y  N   
     Condition: All Good  
 All Openings Sealed? Y  N   
 Cap Condition: N/A

Summary: The eight vents were found in good condition.





# Inland Potable Services, Inc.

## Interior Inspection Report



### Roof Condition

Coating Condition: Poor  
Welds/seam Condition: Fair/Poor  
Corrosion Present On Panels? Y  N   
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The interior roof was found in poor condition with heavy de-lamination and greater than 50% uniform surface corrosion noted and ambient light shining through.



### Overflow Condition

Overflow Location: 12:30 o'clock  
Coating Condition: Fair/Poor  
Weld/Seam Condition: Fair/Poor  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The overflow was found in fair condition with minor de-lamination and greater than 50% uniform surface corrosion noted.

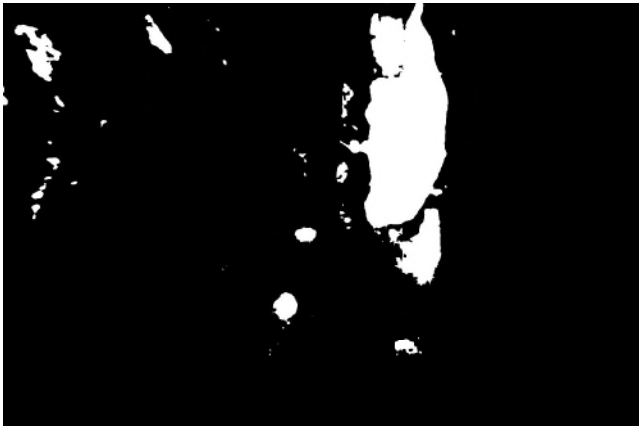


### Wall Panel Condition

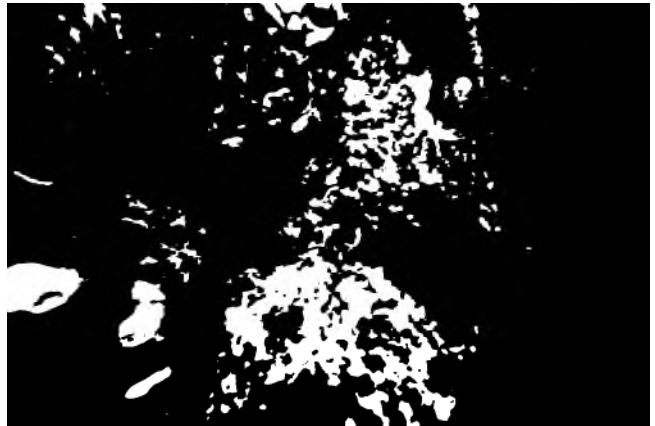
Coating Condition: Poor  
Welds/seam Condition: Fair  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N

Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in poor condition with moderate to heavy cracking, heavy sags & runs in the coating, de-lamination and greater than 50% rust noduling noted.



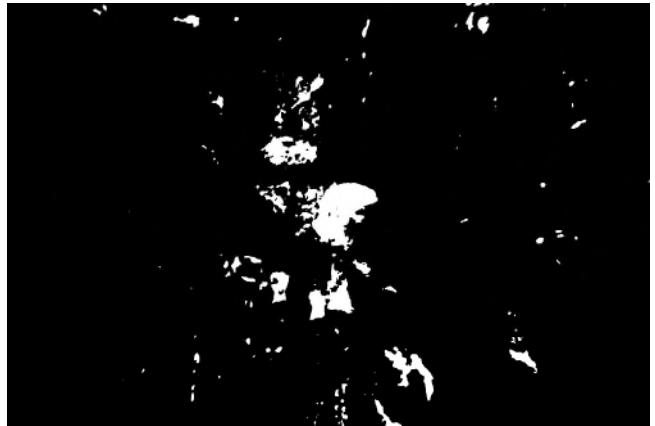
Noduling



Noduling



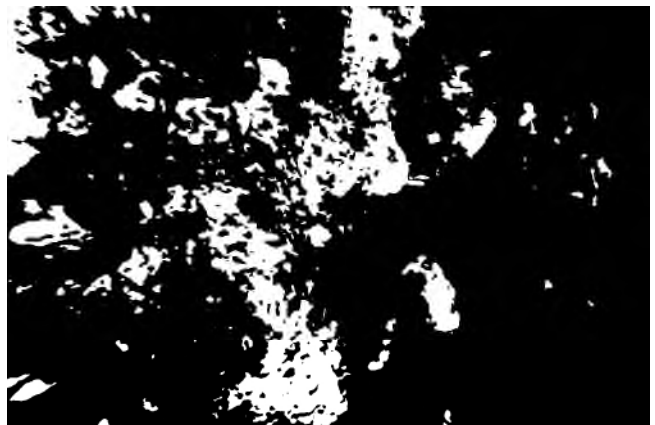
Noduling



Noduling



Noduling



Noduling

**Wall Panel Condition continued**



Noduling

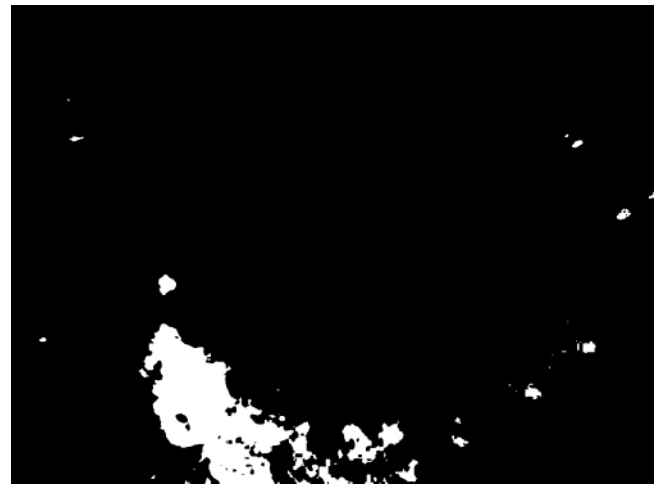


Noduling

**Inlet Condition**

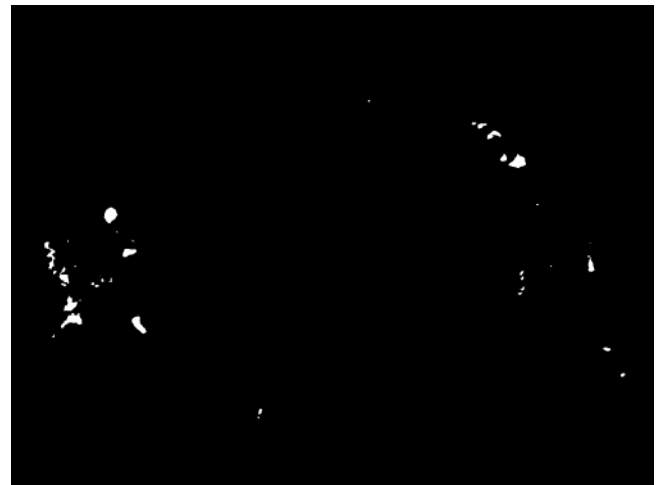
Common Inlet/Outlet? Y  N  Location: N/A  
 If Separate:  
 Inlet Location: 6:30 o'clock  
 Coating Condition: Fair/Poor  
 Weld/Seam Condition: Fair/Poor  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The inlet was found in fair to poor condition with moderate de-lamination and greater than 50% rust noduling noted.



Common Inlet/Outlet? Y  N  Location: N/A  
 If Separate:  
 Outlet Location: 10:30 o'clock  
 Coating Condition: Poor  
 Weld/Seam Condition: Fair  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The outlet was found in poor condition with greater than 50% rust noduling noted.



## Manway Condition

Manway Location(s): 11 o'clock

Coating Condition: Poor

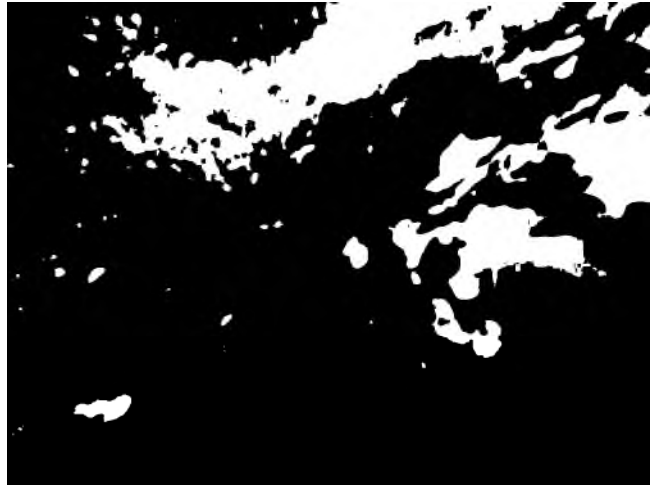
Weld/Seam Condition: Fair/Poor

Corrosion Present? Y  N

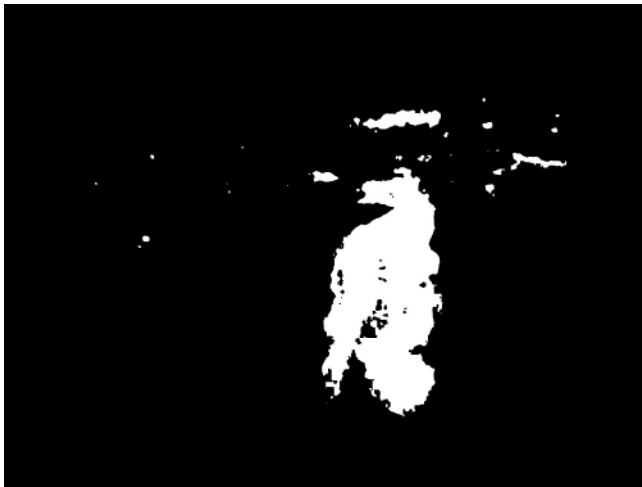
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manway was found in fair to poor condition with moderate de-lamination and greater than 50% rust noduling noted but no signs of leaking present.



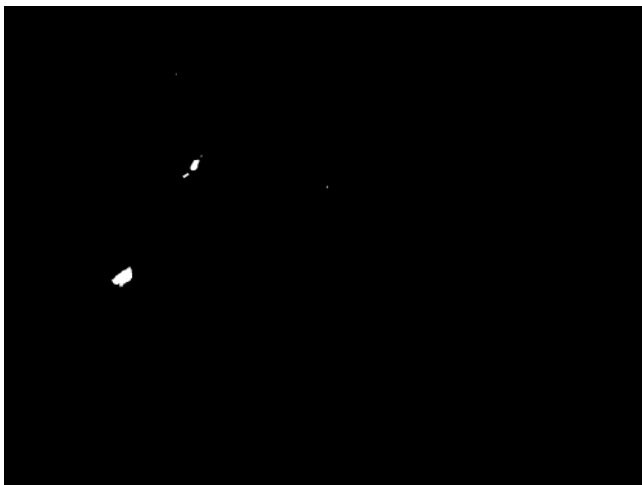
Noduling on riser



Noduling on manway cover



Noduling on manway cover



Noduling on seam of manway



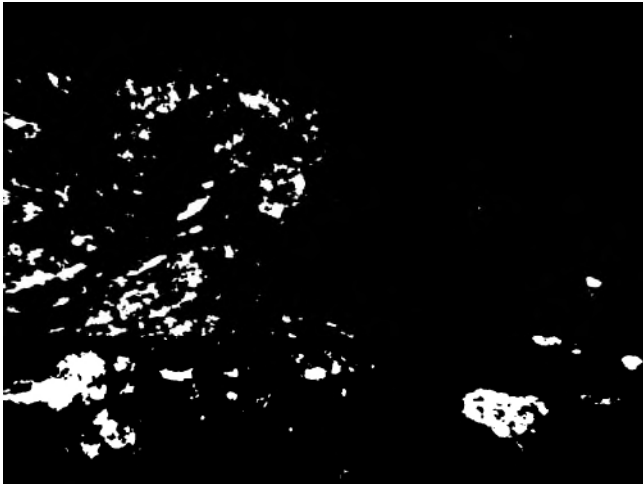
Noduling on seam of manway

**Floor Condition**

Coating Condition: Poor  
 Welds/seam Condition: Fair/Poor  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Sediment Depth: 1 inch

Any irregularities or structural deficiencies? Y  N

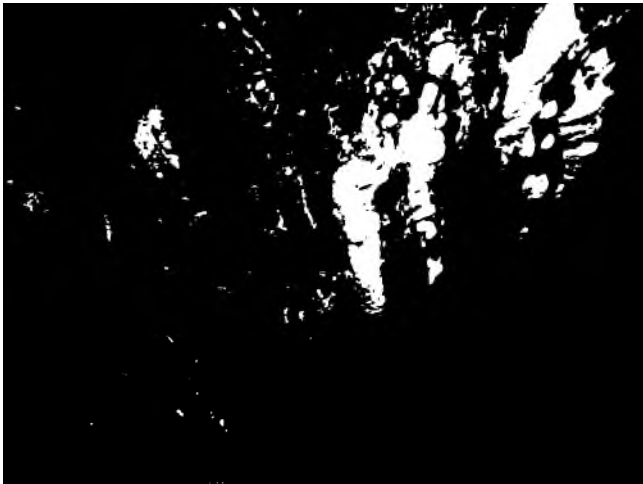
Summary: The floor was found in poor condition with heavy blistering, de-lamination, greater than 50% uniform surface corrosion and rust noduling noted. There was also a large amount of debris present.



Noduling



Noduling



Floor to wall seam



Noduling and debris

**Floor Condition continued**



Debris on floor



Debris on floor



Debris on floor



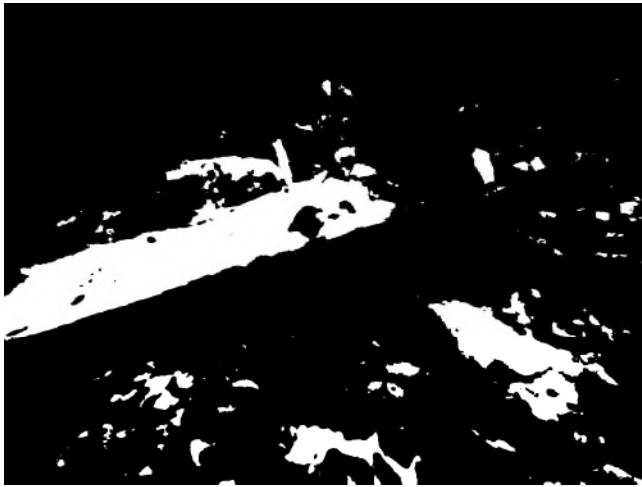
Debris on floor

**Float Condition**

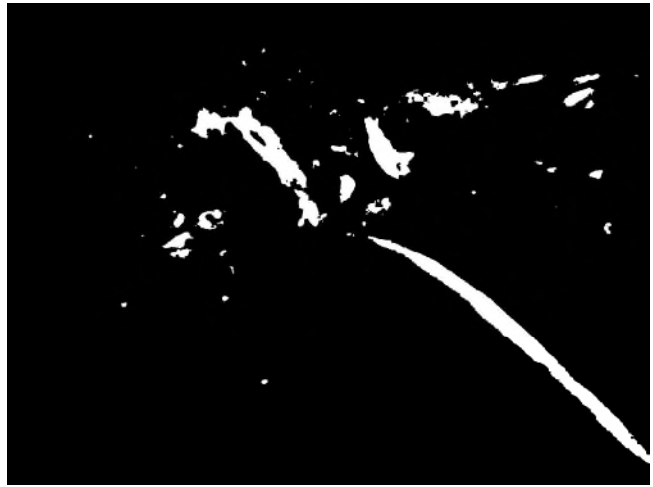
Float Location: 9 o'clock  
 Guidelines Condition: Poor  
 Attached Properly? Y  N   
 Cable Condition: Poor  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

Float Condition: Good  
 Sealed? Y  N

Summary: The float was found in good condition, and working properly, with one of the guidelines off, heavy staining and 3% corrosion noted.



Anchor

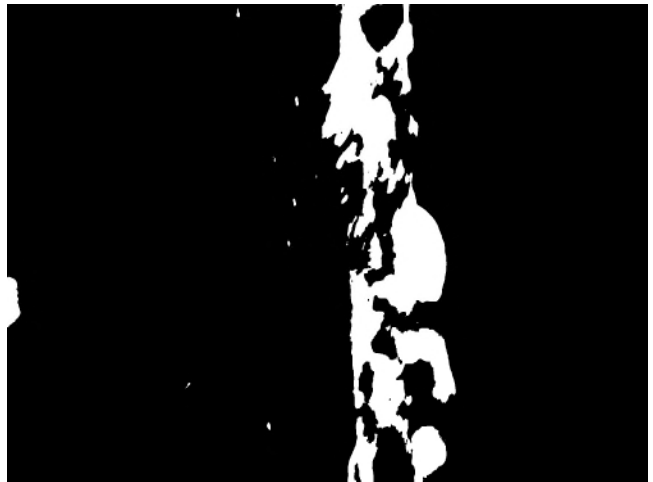


Guideline

**Support Column Condition**

Number Of Columns: 6  
 Coating Condition: All Poor  
 Welds/seam Condition: All Good/Fair  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The six support columns were found secure and in fair to poor condition with moderate sags & runs in the coating, heavy cracking, de-lamination, 33% uniform surface corrosion and 50% rust noduling noted.





Support Column Condition continued



Noduling



De-lamination



De-lamination

**Tank Layout**

There are 6 support columns in the tank.

Quadrant #4

Quadrant #1

Access Hatch

Overflow Pipe

Manway

Outlet

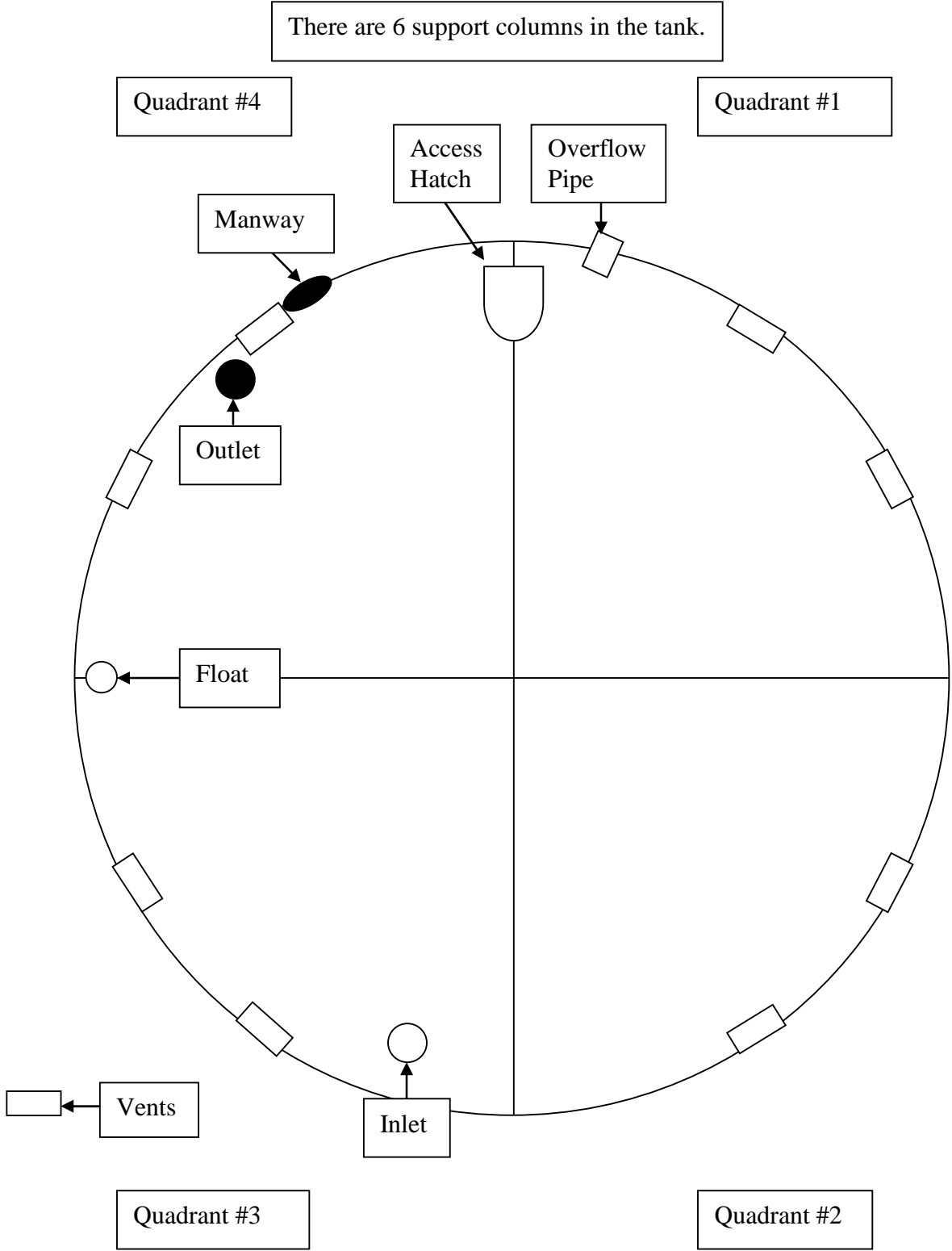
Float

Inlet

Vents

Quadrant #3

Quadrant #2

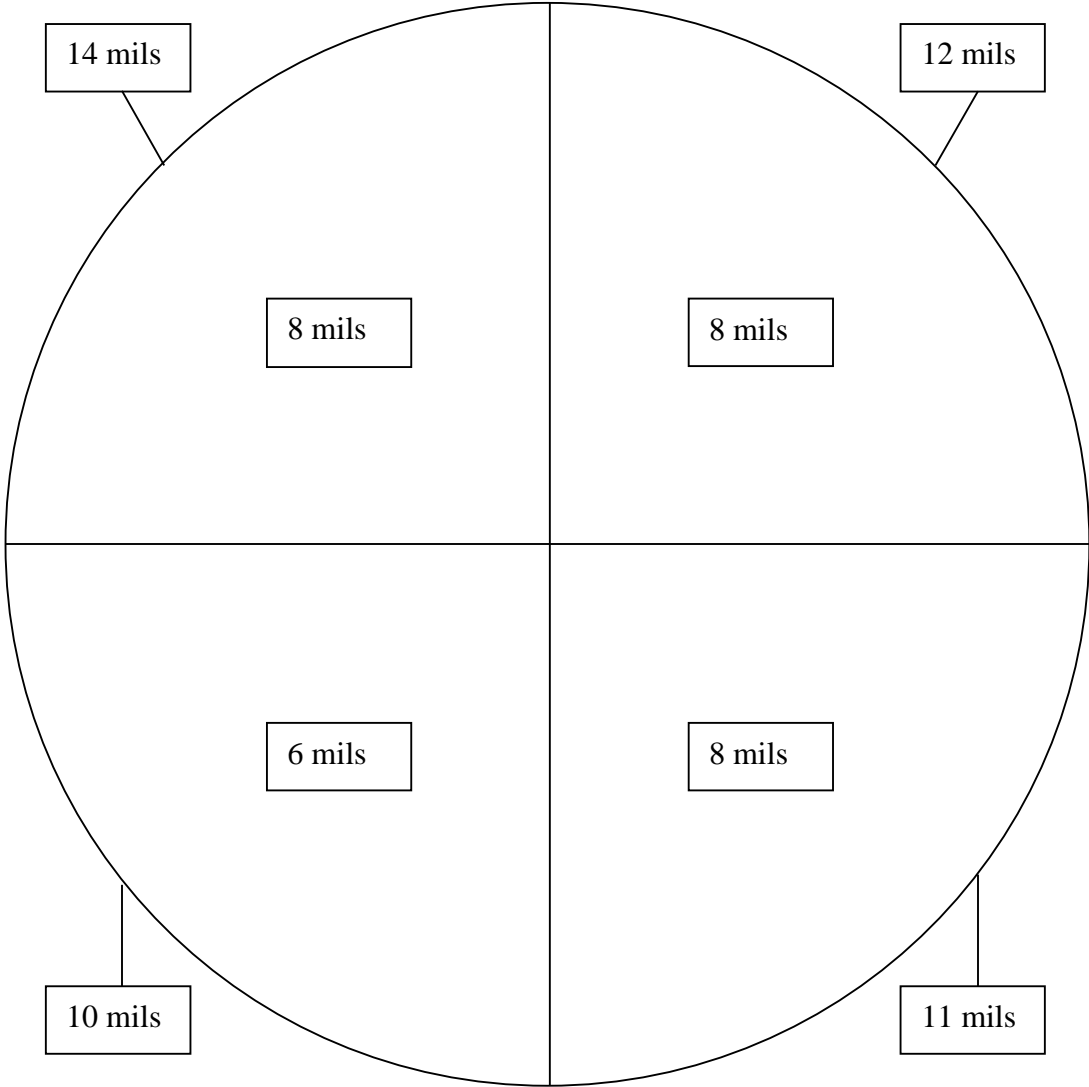


**Tank Layout**

Floor and Wall Ultrasonic Measurements

Quadrant #4

Quadrant #1



Quadrant #3

Quadrant #2

Tank Layout

Ultrasonic Metal Thickness Testing

Quadrant #4

Quadrant #1

.319

.326

.318

.322

.320

.241

.243

.321

.276

.241

.239

.224

.320

.316

.315

.229

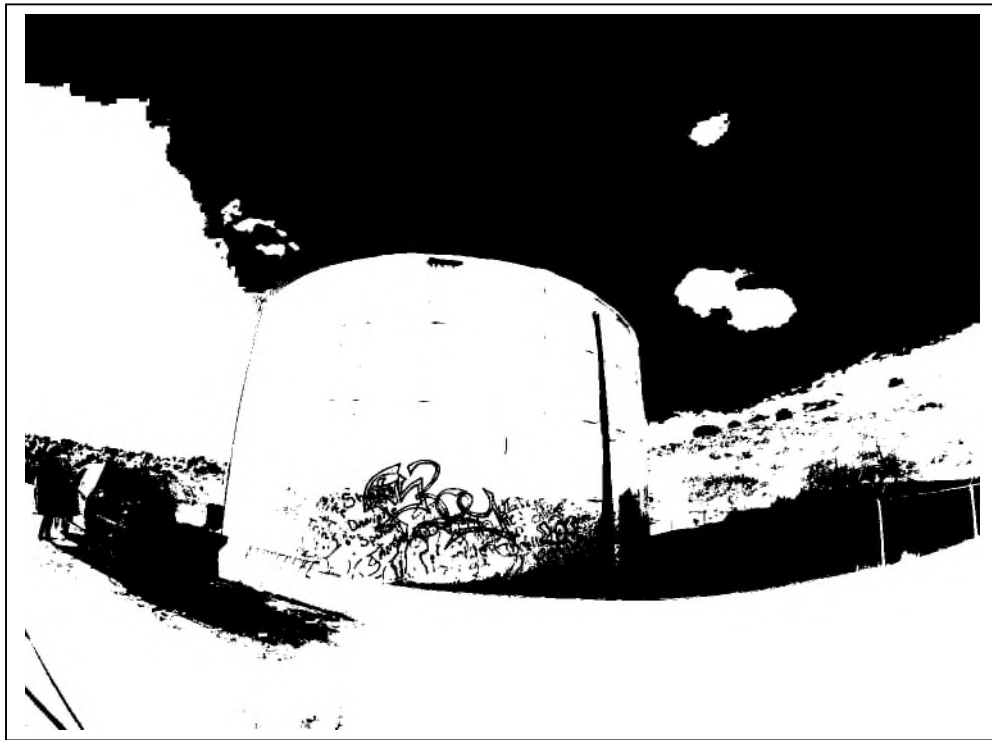
Quadrant #3

Quadrant #2

---

---

**Inspection Report for  
Great Basin Water Company  
Reno, NV**



**500KG Steel On-Grade  
Spring Creek Site 2 High Tank**

**Date Completed: December 14, 2020**

**Commercial Dive Team:**

**Diver – Ken Pietrovich  
Dive Controller – Nico LeBlanc  
Tender – Elijah Cornier**

## Scope of Work:

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. The team had to go portable to get to the tank because of the amount of snow present. (In a gated area)
2. The base of the tank was found in good condition.
3. The wall was found in good condition with minor sags & runs in the coating, de-lamination, staining, graffiti and 5% uniform surface corrosion noted.
4. The overflow was found in good condition with minor de-lamination, staining and 3% uniform surface corrosion noted and is directly connected to the storm drain.
5. The ladder was found secure, OSHA approved and in good condition with minor staining, minor to moderate de-lamination and 3% uniform surface corrosion noted.
6. The manway was found secure and in good condition with minor de-lamination and 0.01% uniform corrosion noted.
7. The water level indicator was found in good condition.
8. The roof was found in good condition with minor staining, moderate de-lamination, minor to moderate cracking, 0.1% rust noduling and 3% uniform surface corrosion noted.
9. The eight vent screens were found in good condition with minor de-lamination and 5% uniform surface corrosion noted. Viewed from the ground several appear to have open seams and the mesh size could not be determined.
10. The hatch was found locked with a partial gasket present and in good condition with minor de-lamination and over 33% uniform surface corrosion noted.

### Key

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in fair to poor condition with over 50% uniform surface corrosion noted.
2. The overflow was found in fair to poor condition with over 33% uniform surface corrosion noted.
3. The interior wall was found in fair to poor condition with moderate staining, 16% rust noduling and over 33% uniform surface corrosion noted.
4. The floor was found in poor condition with very heavy de-lamination and over 10% rust noduling noted.
5. The manway was found in fair to poor condition with heavy staining and 33% rust noduling noted.
6. The common inlet/outlet was found in poor condition with greater than 50% rust noduling noted.
7. The float, which is a gas container, was found in good condition.
8. The six support columns were found secure and in fair condition with minor de-lamination, cracking, blistering, 10% rust noduling and 33% uniform surface corrosion noted.

### **Recommendations:**

1. Per our previous recommendation given in 2014 and again noting the heavy amounts of metal loss and coating failure, it is recommended this tank be decommissioned and replaced.

### **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.

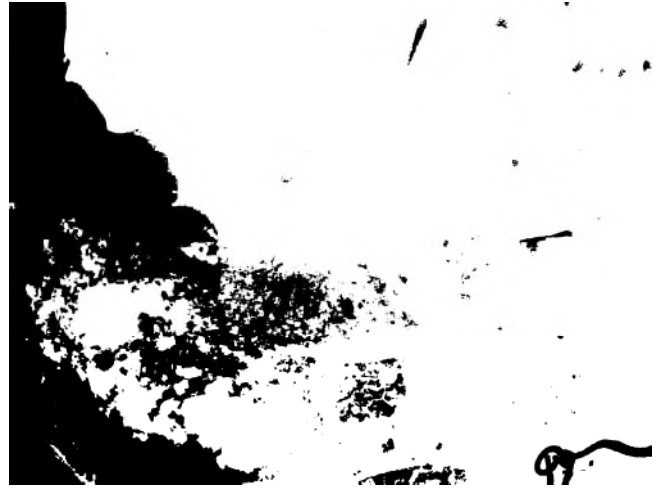
## Exterior Inspection Report



### 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  N/A   
 Spalling Noted? Y  N  N/A

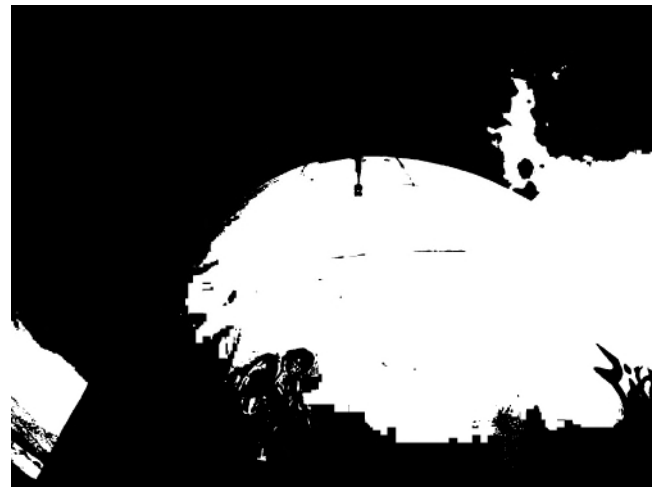
Summary: The base of the tank was found in good condition.



### Wall Panel Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N   
 Signs Of Leaking? Y  N

Summary: The wall was found in good condition with minor sags & runs in the coating, de-lamination, staining, graffiti and 5% uniform surface corrosion noted.





### Overflow Structure Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N

Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

Summary: The overflow was found in good condition with minor de-lamination, staining and 3% uniform surface corrosion noted and is directly connected to the storm drain.

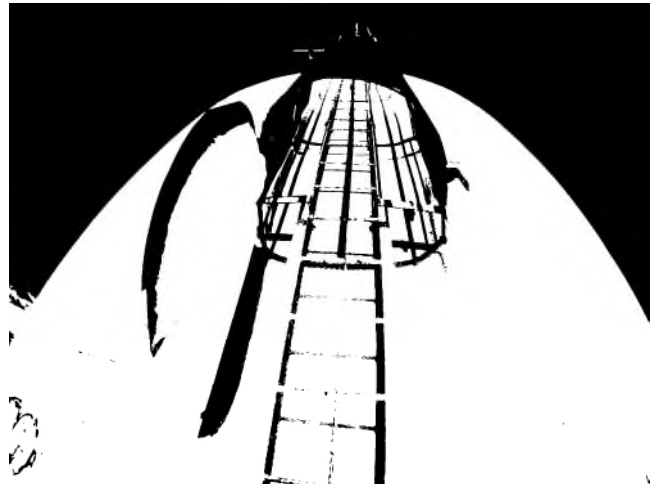
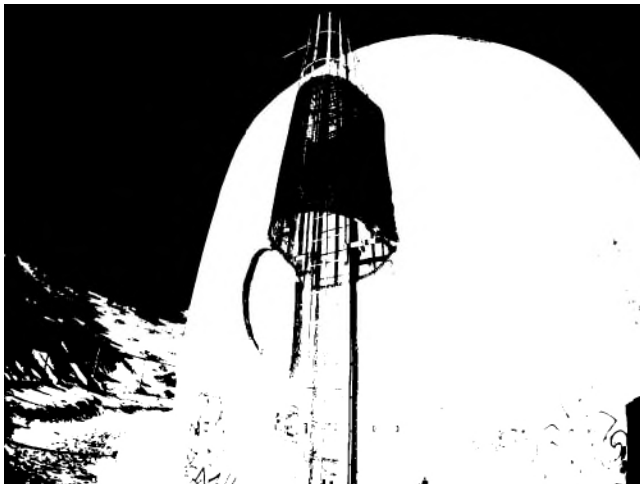


### Access Ladder Condition

Ladder Type: Steel welded  
 Is Ladder and Safety Climb OSHA Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good

Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in good condition with minor staining, minor to moderate de-lamination and 3% uniform surface corrosion noted.



### Manway Condition

Coating Condition: Good  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

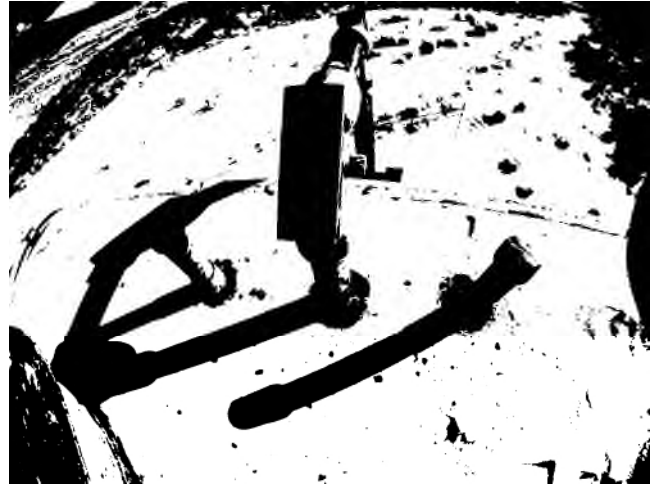
Summary: The manway was found secure and in good condition with minor de-lamination and 0.01% uniform corrosion noted.



### Water Level Indicator Condition

Marker Condition: Good  
Attached & Accurate? Y  N   
Marker Board Condition: Good  
Is the level reading visible? Y  N   
Pulley Condition: Good  
Attached Properly? Y  N   
Cable Condition: Good  
Attached Properly? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N

Summary: The water level indicator was found in good condition.



### Roof Condition

Roof Type: Pitched  
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 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

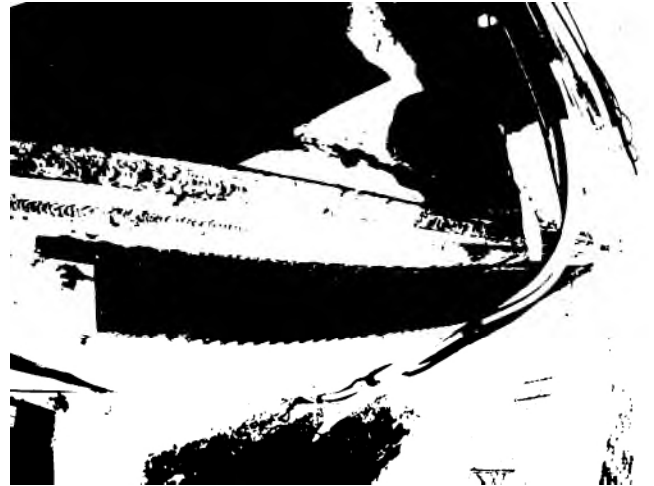
Summary: The roof was found in good condition with minor staining, moderate de-lamination, minor to moderate cracking, 0.1% rust noduling and 3% uniform surface corrosion noted.



### Vent Condition

Coating Condition: All Good  
 Seams/Welds Condition: All Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 #24 Mesh Screen in Place? Y  N   
 Condition: see summary  
 All Openings Sealed? Y  N  see summary  
 Cap Condition: N/A

Summary: The eight vent screens were found in good condition with minor de-lamination and 5% uniform surface corrosion noted. Viewed from the ground several appear to have open seams and the mesh size could not be determined.

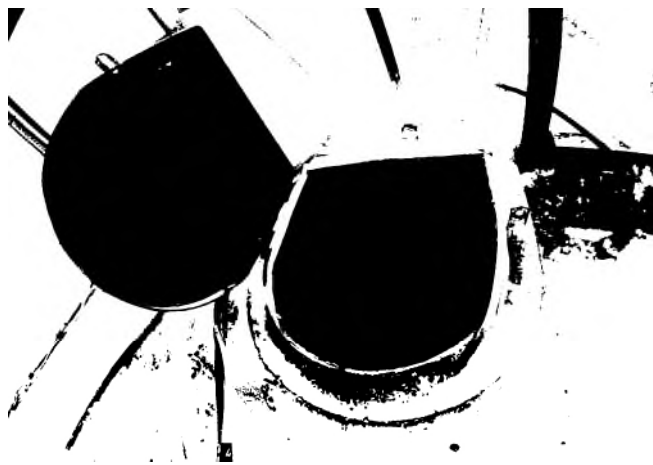


**Access Hatch Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 18 inches x 18 inches  
 Riser Height: 4 inches Lid Height: 2 inches  
 Hatch Locked? Y  N

Hinge Condition: Good  
 Gasket Present? Y  N   
 Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with a partial gasket present and in good condition with minor de-lamination and over 33% uniform surface corrosion noted.








# Inland Potable Services, Inc.

## Interior Inspection Report

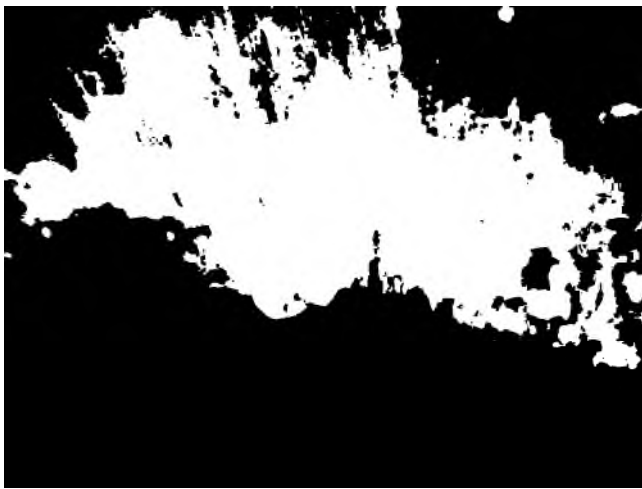
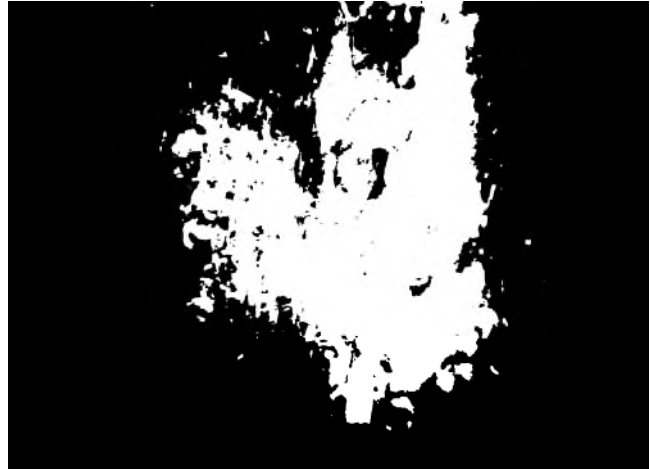


<b>Roof Condition</b>	
Coating Condition: Fair/Poor Welds/seam Condition: Fair Corrosion Present On Panels? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  Summary: The interior roof was found in fair to poor condition with over 50% uniform surface corrosion noted.
	
<b>Overflow Condition</b>	
Overflow Location: 6 o'clock Coating Condition: Fair/Poor Weld/Seam Condition: Fair Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> De-lamination Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  Summary: The overflow was found in fair to poor condition with over 33% uniform surface corrosion noted.	

**Wall Panel Condition**

Coating Condition: Fair/Poor  
Welds/seam Condition: Fair  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in fair to poor condition with moderate staining, 16% rust noduling and over 33% uniform surface corrosion noted.

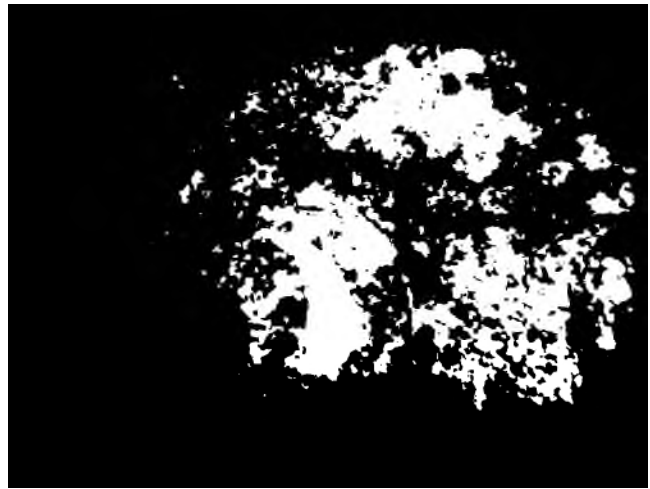


**Floor Condition**

Coating Condition: Poor  
Welds/seam Condition: Fair  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in poor condition with very heavy de-lamination and over 10% rust noduling noted.



## Manway Condition

Manway Location(s): 11:30 o'clock

Coating Condition: Fair/Poor

Weld/Seam Condition: Fair

Corrosion Present? Y  N

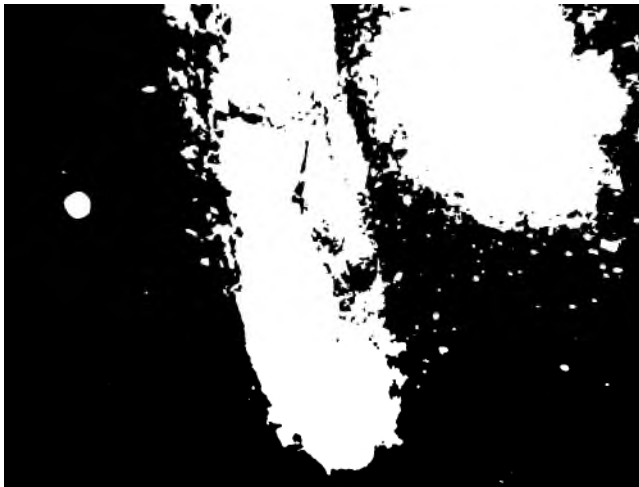
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manway was found in fair to poor condition with heavy staining and 33% rust noduling noted.



Overall manway with cover open



Close-up of manway (left side)



Close-up of manway (right side)



Cover of manway



Close-up of cover

### Inlet and Outlet Condition

Common Inlet/Outlet? Y  N  Location: 6 o'clock  
If Separate:  
Outlet Location: N/A  
Inlet Location: N/A  
Coating Condition: Poor  
Weld/Seam Condition: Fair  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The common inlet/outlet was found in poor condition with greater than 50% rust noduling noted.



### Float Condition

Float Location: 11 o'clock  
Guidelines Condition: Good  
Attached Properly? Y  N   
Cable Condition: Good  
Attached Properly? Y  N   
Hardware Condition: Good  
Corrosion Present? Y  N

Float Condition: Good  
Sealed? Y  N

Summary: The float, which is a gas container, was found in good condition.

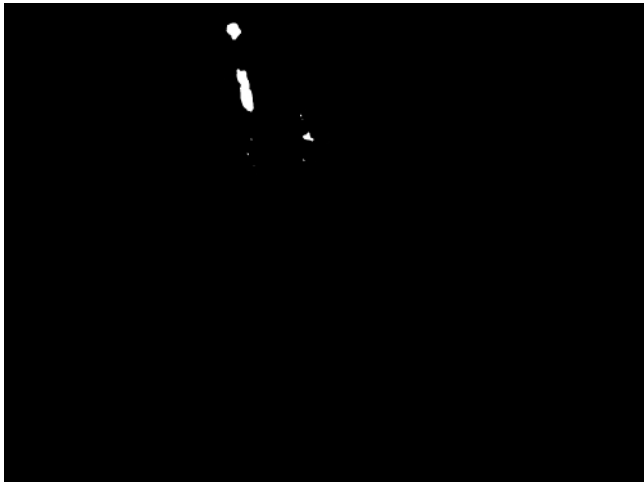




**Support Column Condition**

Number Of Columns: 6  
Coating Condition: All Fair  
Welds/seam Condition: All Good/Fair  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The six support columns were found secure and in fair condition with minor de-lamination, cracking, blistering, 10% rust noduling and 33% uniform surface corrosion noted.



**Tank Layout**

There are 6 support columns in the tank.

Quadrant #4

Quadrant #1

Manway

Access Hatch

Float

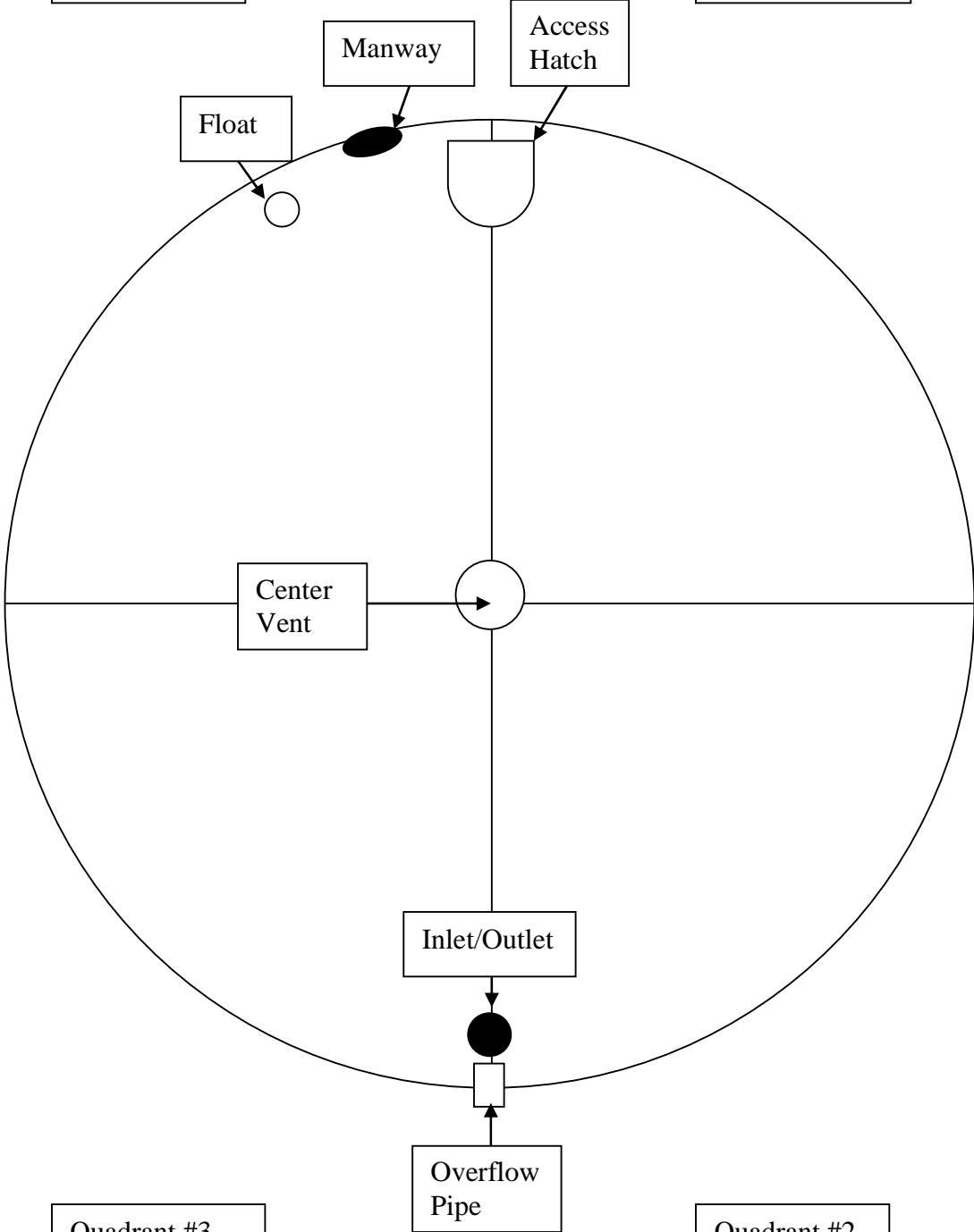
Center Vent

Inlet/Outlet

Quadrant #3

Overflow Pipe

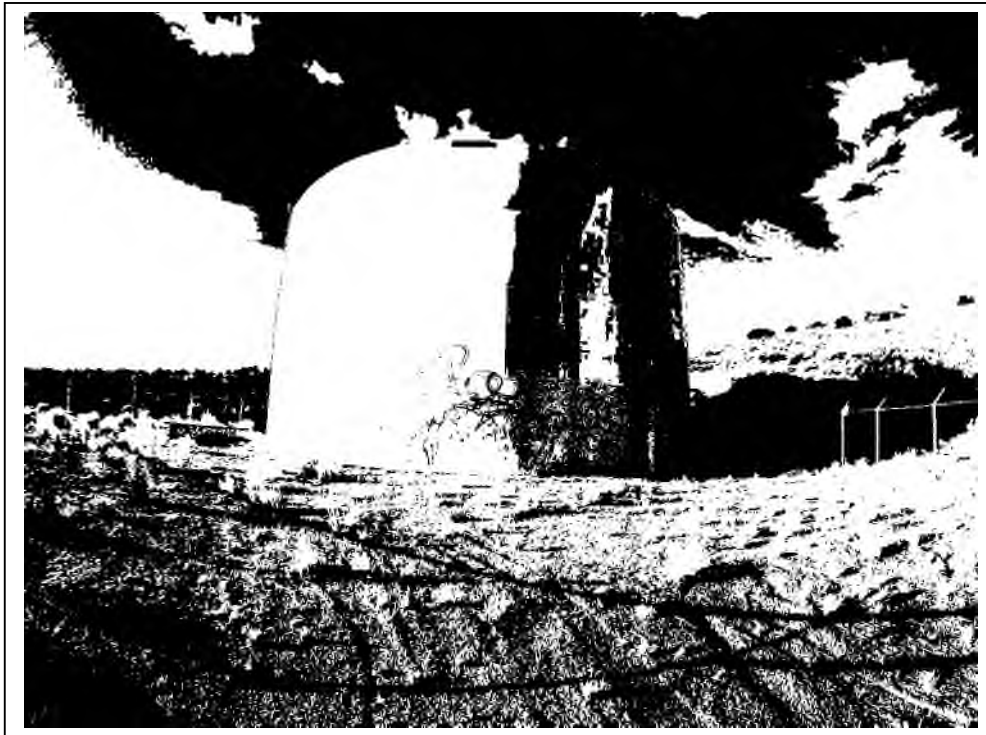
Quadrant #2



---

---

**Inspection Report for  
Great Basin Water Company  
Reno, NV**



**500KG Steel On-Grade  
Spring Creek High Tank**

**Date Completed: November 4, 2021**

**Commercial Dive Team:**

**Diver – Wes Gasner  
Dive Controller – Jose Tiscareno  
Tender – Nico LeBlanc**

## **Scope of Work:**

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.
2. The wall was found in good condition with minor sags & runs in the coating, chalking, de-lamination, blistering, 0.01% uniform surface corrosion and graffiti noted.
3. The overflow was found in good condition with minor de-lamination, sags & runs in the coating, chalking, blistering, 0.01% uniform surface corrosion and graffiti noted.
4. The roof was found in good condition with minor sags & runs in the coating, moderate de-lamination, chalking and 0.3% uniform surface corrosion noted.
5. The water level indicator was found in fair condition with 0.1% uniform surface corrosion noted.
6. The ladder was found secure, OSHA approved and in good condition with minor sags & runs in the coating, de-lamination and 0.1% uniform surface corrosion noted.
7. The hatch was found locked with a gasket in place and in good to fair condition with greater than 50% uniform surface corrosion noted.
8. The vent was found in good condition with minor de-lamination, chalking and uniform surface corrosion noted.

### **Interior Inspection**

1. The interior roof was found in fair condition with moderate to heavy blistering and greater than 50% uniform surface corrosion noted.
2. The interior wall was found in fair condition with moderate cracking, heavy de-lamination, blistering, 1% uniform surface corrosion and 3% rust noduling noted.
3. The floor was found in fair condition with minor cracking, moderate de-lamination, blistering, 1% rust noduling and 3% uniform surface corrosion noted. There is between ¼ inch and 4 inches of sediment present.
4. The manway was found in fair condition with heavy cracking, de-lamination, 16% rust noduling and 33% uniform surface corrosion noted.
5. The common inlet/outlet was found in fair condition with moderate cracking, moderate to heavy blistering, 3% uniform surface corrosion and 10% rust noduling noted.
6. The float, which is a plastic container, was found in fair to poor condition with only the cable connected.
7. The six support columns were found in fair condition with moderate sags & runs in the coating, heavy de-lamination, cracking, 3% rust noduling and greater than 50% uniform surface corrosion noted.

## **Recommendations:**

1. Schedule time for a blast and recoat of the interior as soon as budgets will allow. If, within 3 years, the recoating has not been completed, schedule a follow-up clean and inspect as recommended by the AWWA.

## **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



### Wall Panel Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N   
 Signs Of Leaking? Y  N

Summary: The wall was found in good condition with minor sags & runs in the coating, chalking, de-lamination, blistering, 0.01% uniform surface corrosion and graffiti noted.



### Overflow Structure Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

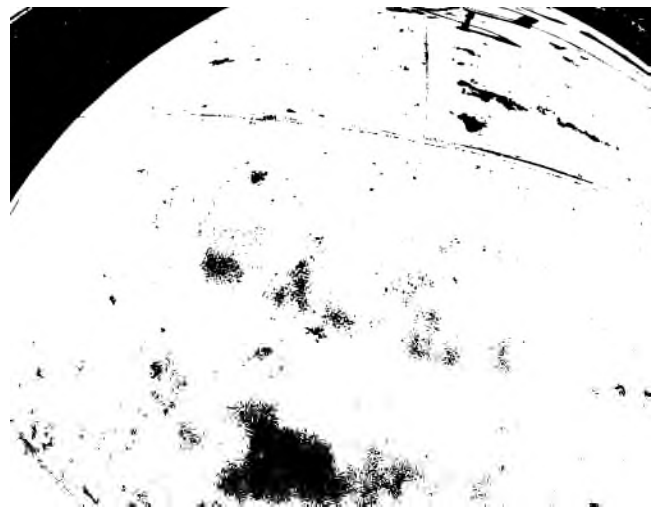
Summary: The overflow was found in good condition with minor de-lamination, sags & runs in the coating, chalking, blistering, 0.01% uniform surface corrosion and graffiti noted.



### Roof Condition

Roof Type: Flat  
 Coating Condition: Fair  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 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 minor sags & runs in the coating, moderate de-lamination, chalking and 0.3% uniform surface corrosion noted.

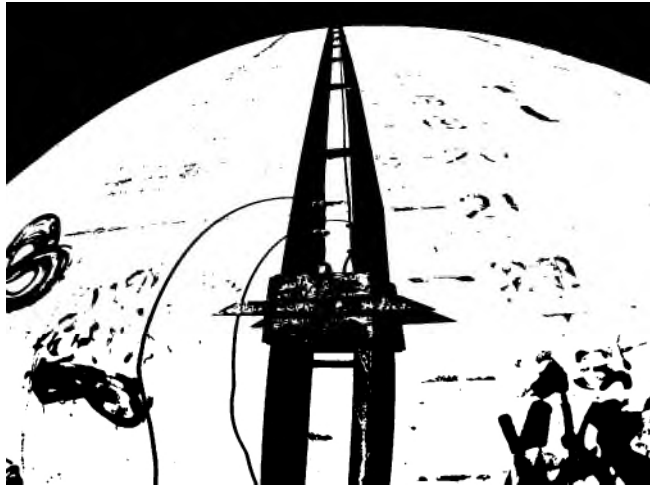


### Water Level Indicator Condition

Marker Condition: Poor  
 Attached & Accurate? Y  N   
 Marker Board Condition: Poor  
 Is the level reading visible? Y  N   
 Pulley Condition: Fair  
 Attached Properly? Y  N

Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Fair  
 Corrosion Present? Y  N

Summary: The water level indicator was found in fair condition with 0.1% uniform surface corrosion noted.

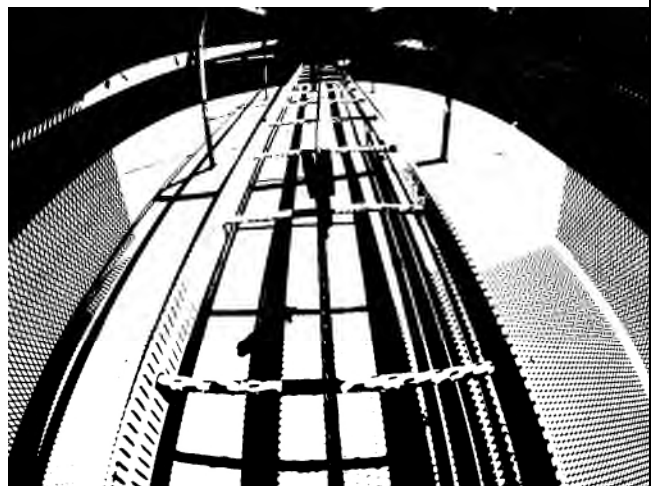
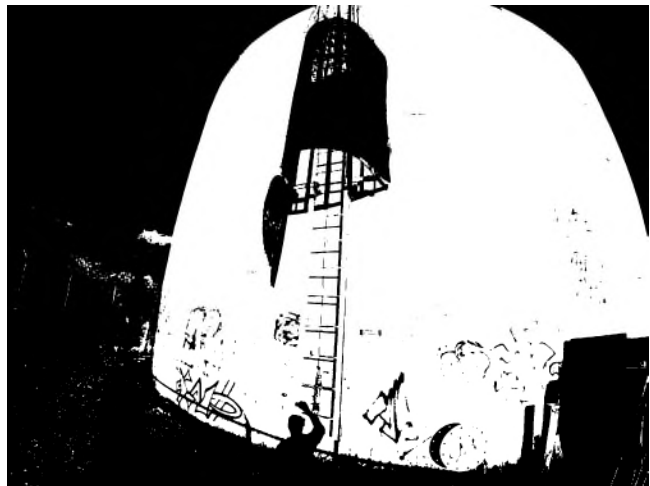


### Access Ladder Condition

Ladder Type: Steel  
 Is Ladder and Safety Climb OSHA Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good

Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in good condition with minor sags & runs in the coating, de-lamination and 0.1% uniform surface corrosion noted.



### Access Hatch Condition

Coating Condition: Poor  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 2 foot round  
     Riser Height: 3 inches   Lid Height: 2 inches  
     Hatch Locked? Y  N   
     Hinge Condition: Good  
 Gasket Present? Y  N   
     Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

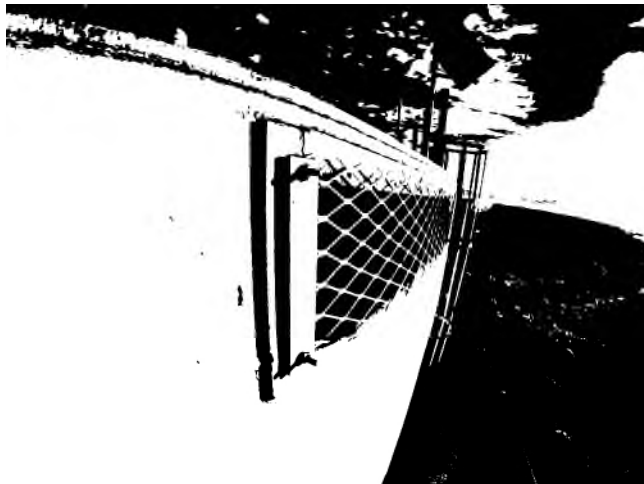
Summary: The hatch was found locked with a gasket in place and in good to fair condition with greater than 50% uniform surface corrosion noted.



### Vent Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 #24 Mesh Screen in Place? Y  N   
     Condition: Good  
 All Openings Sealed? Y  N   
 Cap Condition: N/A

Summary: The vent was found in good condition with minor de-lamination, chalking and uniform surface corrosion noted.





# Inland Potable Services, Inc.

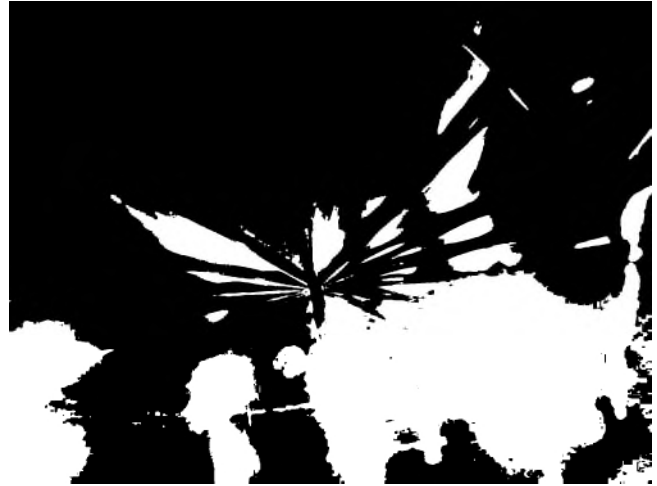
## Interior Inspection Report



### Roof Condition

Coating Condition: Fair  
Welds/seam Condition: Fair/Poor  
Corrosion Present On Panels? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

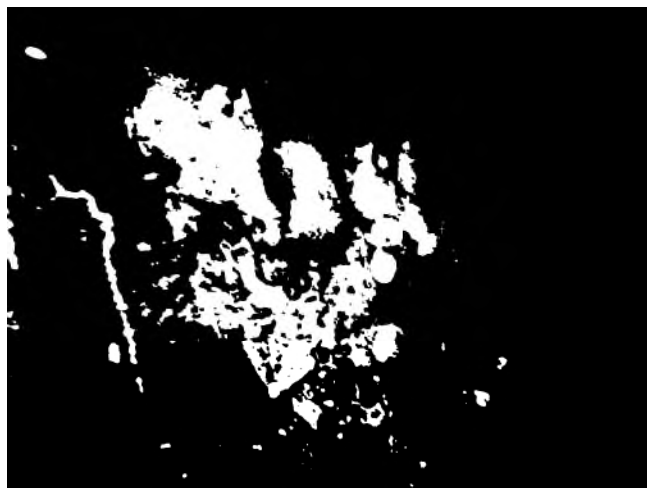
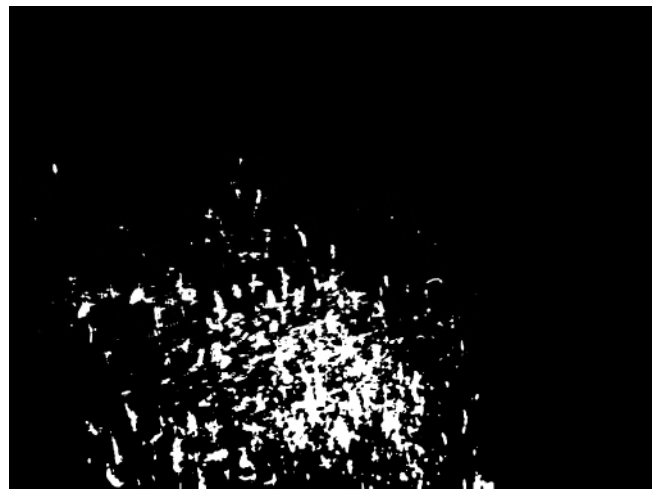
Summary: The interior roof was found in fair condition with moderate to heavy blistering and greater than 50% uniform surface corrosion noted.



### Wall Panel Condition

Coating Condition: Fair/Poor  
Welds/seam Condition: Fair  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in fair condition with moderate cracking, heavy de-lamination, blistering, 1% uniform surface corrosion and 3% rust noduling noted.





### Floor Condition

Coating Condition: Fair  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in fair condition with minor cracking, moderate de-lamination, blistering, 1% rust noduling and 3% uniform surface corrosion noted. There is between ¼ inch and 4 inches of sediment present.



### Manway Condition

Manway Location(s): 2 o'clock  
Coating Condition: Poor  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manway was found in fair condition with heavy cracking, de-lamination, 16% rust noduling and 33% uniform surface corrosion noted.

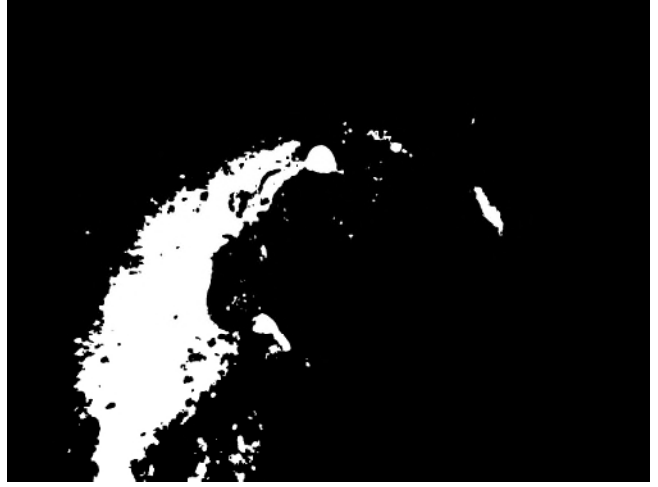
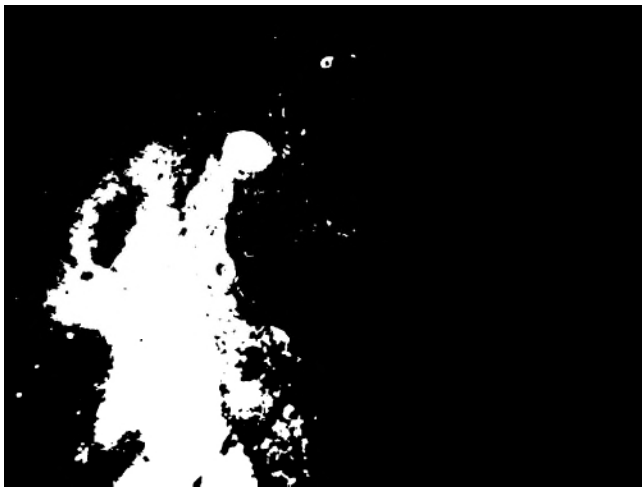


**Inlet and Outlet Condition**

Common Inlet/Outlet? Y  N   
 Location: 7 o'clock  
 Coating Condition: Fair/Poor  
 Weld/Seam Condition: Fair  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The common inlet/outlet was found in fair condition with moderate cracking, moderate to heavy blistering, 3% uniform surface corrosion and 10% rust noduling noted.



**Float Condition**

Float Location: 6 o'clock  
 Guidelines Condition: N/A  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: N/A  
 Corrosion Present? Y  N   
 Float Condition: Fair  
 Sealed? Y  N

Summary: The float, which is a plastic container, was found in fair to poor condition with only the cable connected.



**Support Column Condition**

Number Of Columns: 6  
Coating Condition: All Poor  
Welds/seam Condition: All Fair/Poor  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The six support columns were found in fair condition with moderate sags & runs in the coating, heavy de-lamination, cracking, 3% rust noduling and greater than 50% uniform surface corrosion noted.



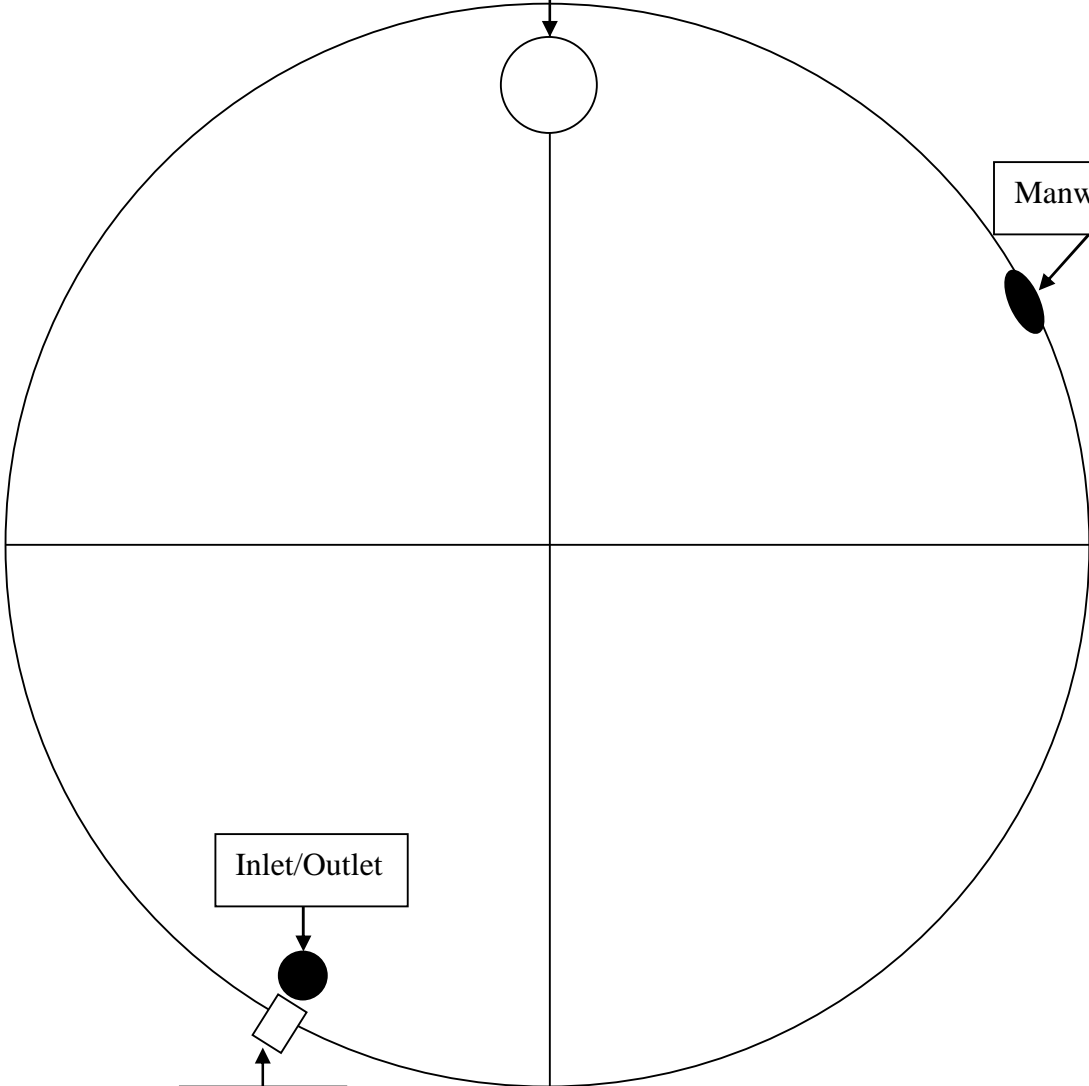
# Tank Layout

There are 6 support columns in the tank.

Quadrant #4

Quadrant #1

Access Hatch



Quadrant #3

Quadrant #2

---

---

**Inspection Report for  
Great Basin Water Company  
Spring Creek, NV**



**500KG Steel On-Grade  
Spring Creek High Tank**

**Date Completed: May 1, 2023**

**Commercial Dive Team:**

**Diver – Harry Lawson  
Dive Controller – Michael Langford  
Tender – Logan Peirce**

## Scope of Work:

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 wall was found in good condition with minor pinholes, minor to moderate de-lamination, graffiti, moderate to heavy staining, heavy sags & runs in the coating, 0.01% concentrated cell corrosion and 0.03% uniform surface corrosion noted.
3. The overflow was found in good condition with minor corrosive staining, moderate de-lamination, sags & runs in the coating and 0.03% concentrated cell corrosion & uniform surface corrosion noted.
4. The manway could not be evaluated due to the fact that it is enclosed in a box and locked.
5. The water level indicator was found in good condition with 0.01% concentrated cell corrosion noted.
6. The ladder was found secure, OSHA approved and in good condition with minor corrosive staining, sags & runs in the coating, minor to moderate de-lamination and 0.01% uniform surface corrosion & concentrated cell corrosion noted.
7. The roof was found in good condition with heavy de-lamination, corrosive staining and 33% uniform surface corrosion & concentrated cell corrosion noted.
8. The hatch was found locked with no gasket present and in good to fair condition with heavy corrosive staining, de-lamination and 33% uniform surface corrosion & concentrated cell corrosion noted.
9. The six vents were found in good to fair condition with heavy de-lamination, corrosive staining and greater than 50% concentrated cell corrosion & uniform surface corrosion noted.

### Key

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in good condition with heavy de-lamination, corrosive staining, 16% uniform surface corrosion and 1% concentrated cell corrosion noted.
2. The overflow was found in fair condition with heavy corrosive staining, de-lamination, 3% concentrated cell corrosion and 10% uniform surface corrosion noted.
3. The interior wall was found in good to fair condition with heavy corrosive staining, de-lamination, 1/16 inch deep pitting, 1% rust noduling, 0.3% concentrated cell corrosion and 50% uniform surface corrosion noted.
4. The floor was found in poor condition with heavy sediment & corrosive staining, 1/8 deep pitting and 33% rust noduling, concentrated cell corrosion & uniform surface corrosion noted. There was an average of 7 inches of sediment present.
5. The manway was found in fair condition with heavy corrosive staining, de-lamination, 1/16 inch deep pitting, 3% concentrated cell corrosion and 10% rust noduling & uniform surface corrosion noted.
6. The high-fill inlet was found in good to fair condition with heavy corrosive staining, de-lamination, 3% concentrated cell corrosion and 10% uniform surface corrosion noted.
7. The outlet was found in fair condition with heavy sediment & corrosive staining, de-lamination, 0.3% concentrated cell corrosion and 10% uniform surface corrosion noted.
8. The float was found to have a small amount of water inside and was in good condition with 0.3% uniform surface corrosion & concentrated cell corrosion noted.
9. The six support columns were found secure and in fair condition with heavy de-lamination, staining, 1/16 inch deep pitting, 1% rust noduling and 3% uniform surface corrosion noted.

### **Recommendations:**

1. Install a gasket on the access hatch.
2. Schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **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



### Wall Panel Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N   
 Signs Of Leaking? Y  N

Summary: The wall was found in good condition with minor pinholes, minor to moderate de-lamination, graffiti, moderate to heavy staining, heavy sags & runs in the coating, 0.01% concentrated cell corrosion and 0.03% uniform surface corrosion noted.



### Overflow Structure Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N   
 End Cap Present? Y  N   
 Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: N/A

Summary: The overflow was found in good condition with minor corrosive staining, moderate de-lamination, sags & runs in the coating and 0.03% concentrated cell corrosion & uniform surface corrosion noted.





### Manway Condition

Coating Condition: N/A  
 Weld/Seam Condition: N/A  
 Corrosion Present? Y  N  N/A   
 Oxidation Present? Y  N  N/A   
 De-lamination Present? Y  N  N/A

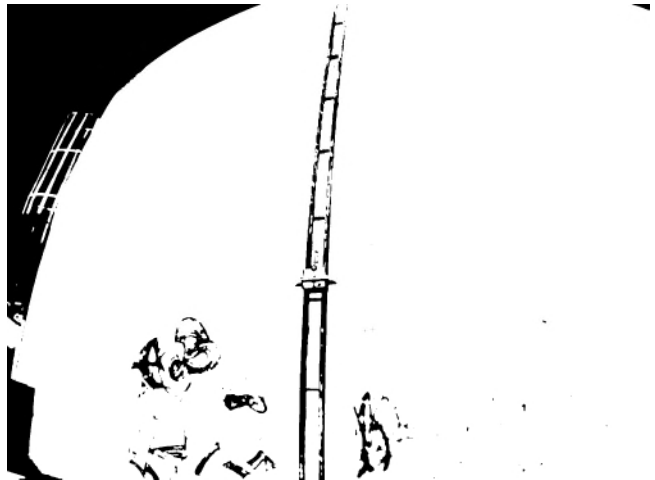
Summary: The manway could not be evaluated due to the fact that it is enclosed in a box and locked.



### Water Level Indicator Condition

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Marker Board Condition: Good  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

Summary: The water level indicator was found in good condition with 0.01% concentrated cell corrosion noted.



### Access Ladder Condition

Ladder Type: Steel  
 Is Ladder and Safety Climb OSHA Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

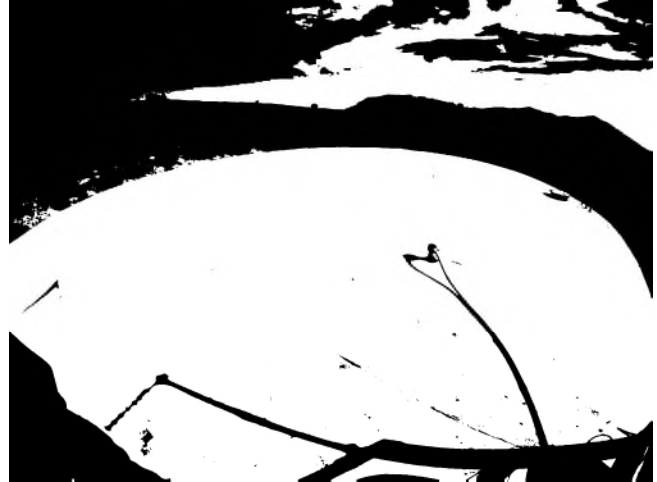
Summary: The ladder was found secure, OSHA approved and in good condition with minor corrosive staining, sags & runs in the coating, minor to moderate de-lamination and 0.01% uniform surface corrosion & concentrated cell corrosion noted.



### Roof Condition

Roof Type: Domed  
 Coating Condition: Fair  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 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 heavy de-lamination, corrosive staining and 33% uniform surface corrosion & concentrated cell corrosion noted.

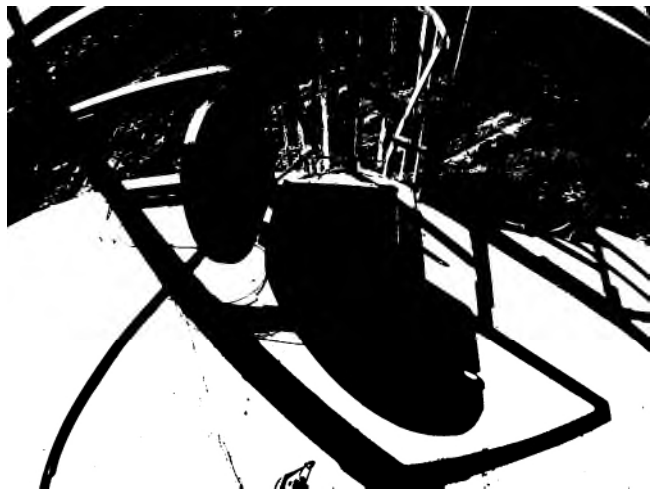
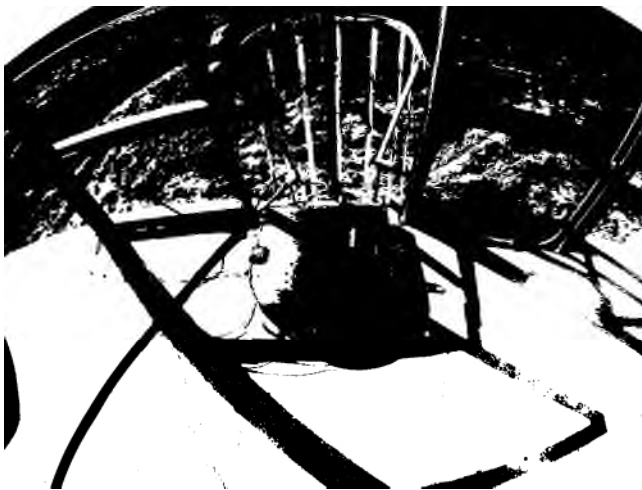


### Access Hatch Condition

Coating Condition: Poor  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 18 inch  
     Riser Height: 4 inches   Lid Height: 2 inches  
 Hatch Locked? Y  N

Hinge Condition: Good  
 Gasket Present? Y  N   
     Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with no gasket present and in good to fair condition with heavy corrosive staining, de-lamination and 33% uniform surface corrosion & concentrated cell corrosion noted.

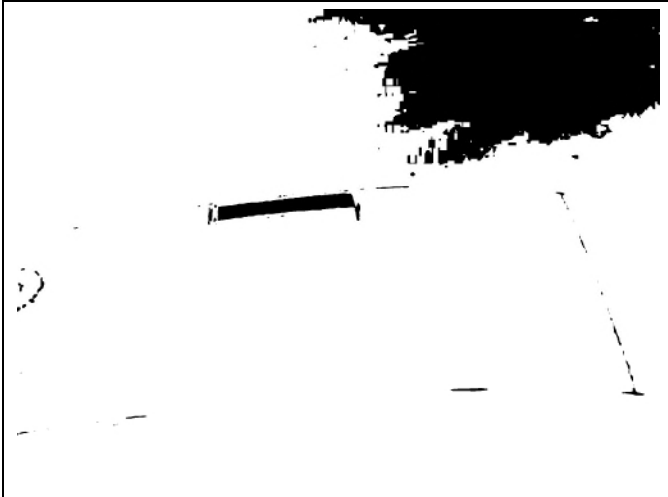
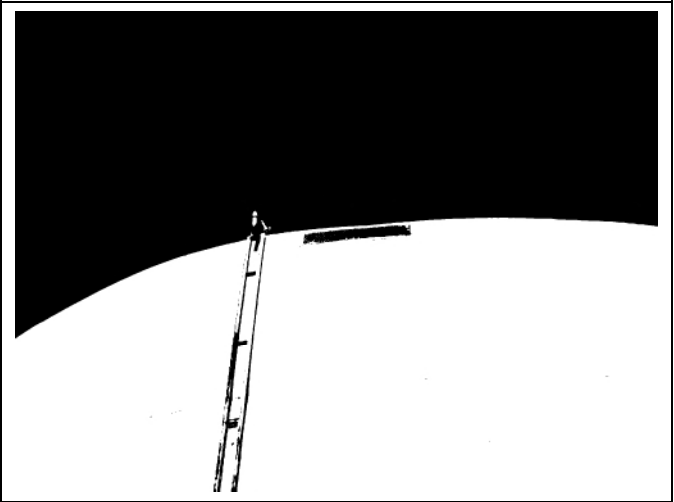
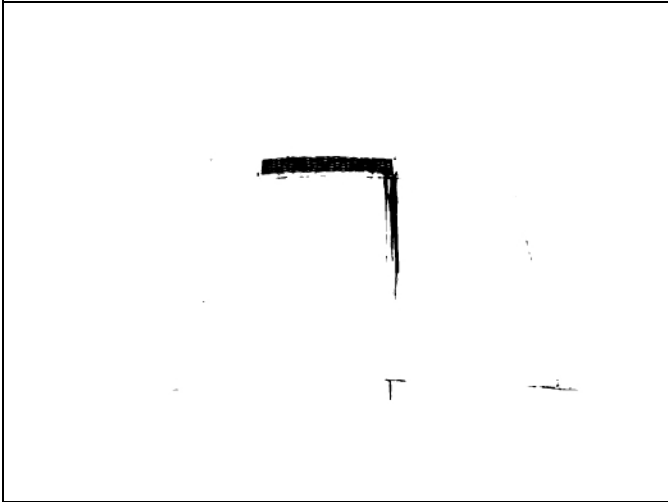
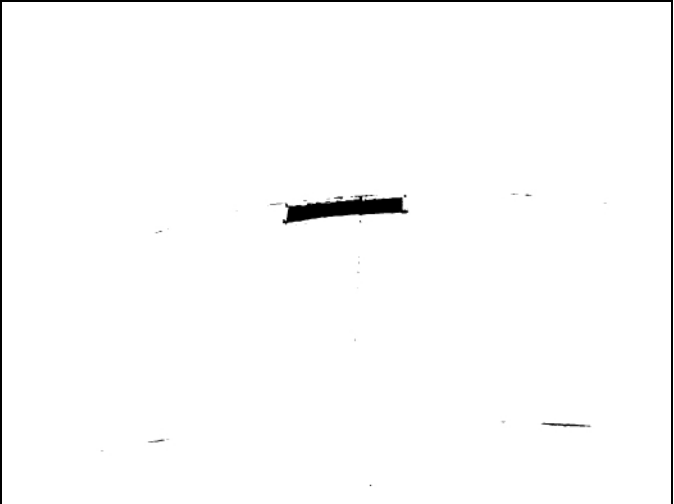
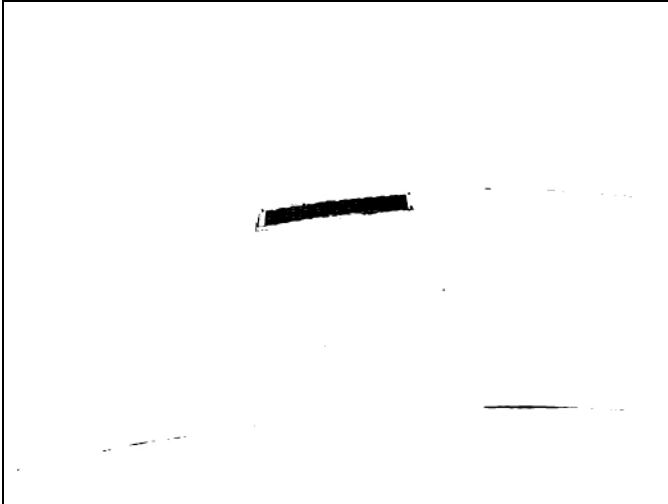


### Vent Condition

Coating Condition: All Fair  
Seams/Welds Condition: All Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
#24 Mesh Screen in Place? Y  N   
Condition: All Good

All Openings Sealed? Y  N   
Cap Condition: N/A

Summary: The six vents were found in good to fair condition with heavy de-lamination, corrosive staining and greater than 50% concentrated cell corrosion & uniform surface corrosion noted.





# Inland Potable Services, Inc.

## Interior Inspection Report



### Roof Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present On Panels? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The interior roof was found in good condition with heavy de-lamination, corrosive staining, 16% uniform surface corrosion and 1% concentrated cell corrosion noted.



### Overflow Condition

Overflow Location: 7 o'clock  
 Coating Condition: Poor  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The overflow was found in fair condition with heavy corrosive staining, de-lamination, 3% concentrated cell corrosion and 10% uniform surface corrosion noted.



### Wall Panel Condition

Coating Condition: Fair  
Welds/seam Condition: Good  
Corrosion Present On Panel? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Is Biofilm Present: Y  N   
Any irregularities or structural deficiencies? Y  N

Summary: The interior wall was found in good to fair condition with heavy corrosive staining, de-lamination, 1/16 inch deep pitting, 1% rust noduling, 0.3% concentrated cell corrosion and 50% uniform surface corrosion noted.



### Floor Condition

Coating Condition: Poor  
Welds/seam Condition: Fair  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Any irregularities or structural deficiencies? Y  N

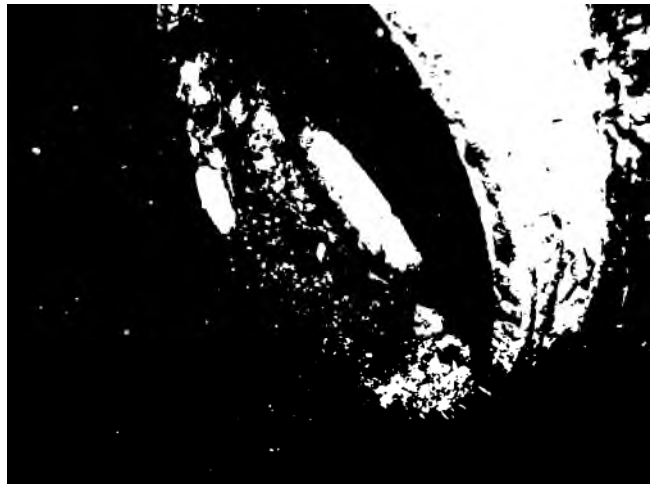
Summary: The floor was found in poor condition with heavy sediment & corrosive staining, 1/8 deep pitting and 33% rust noduling, concentrated cell corrosion & uniform surface corrosion noted. There was an average of 7 inches of sediment present.



### Manway Condition

Manway Location(s): 11 o'clock  
Coating Condition: Poor  
Weld/Seam Condition: Fair  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The manway was found in fair condition with heavy corrosive staining, de-lamination, 1/16 inch deep pitting, 3% concentrated cell corrosion and 10% rust noduling & uniform surface corrosion noted.



### Inlet and Outlet Condition

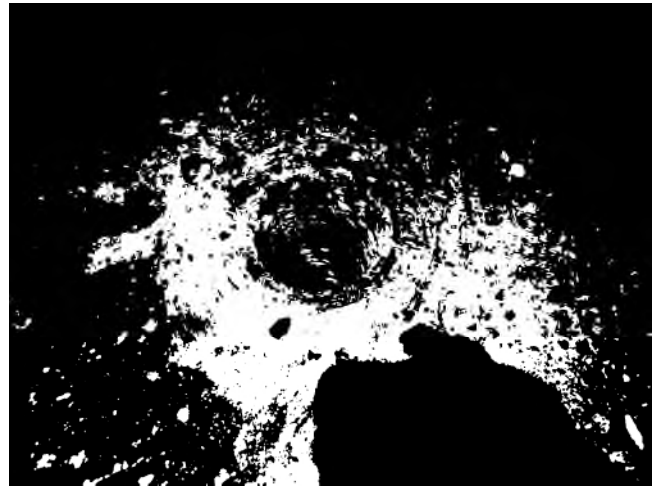
Inlet Location: 1 o'clock  
Coating Condition: Poor  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The high-fill inlet was found in good to fair condition with heavy corrosive staining, de-lamination, 3% concentrated cell corrosion and 10% uniform surface corrosion noted.



Outlet Location: 11 o'clock  
Coating Condition: Fair  
Weld/Seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The outlet was found in fair condition with heavy sediment & corrosive staining, de-lamination, 0.3% concentrated cell corrosion and 10% uniform surface corrosion noted.



### Float Condition

Float Location: 10 o'clock

Float Condition: Good

Sealed? Y  N

Guidelines Condition: None

Attached Properly? Y  N

Cable Condition: Fair

Attached Properly? Y  N

Hardware Condition:

Corrosion Present? Y  N

Summary: The float was found to have a small amount of water inside and was in good condition with 0.3% uniform surface corrosion & concentrated cell corrosion noted.



### Support Column Condition

Number Of Columns: 6

Coating Condition: All Poor

Welds/seam Condition: All Good

Corrosion Present? Y  N

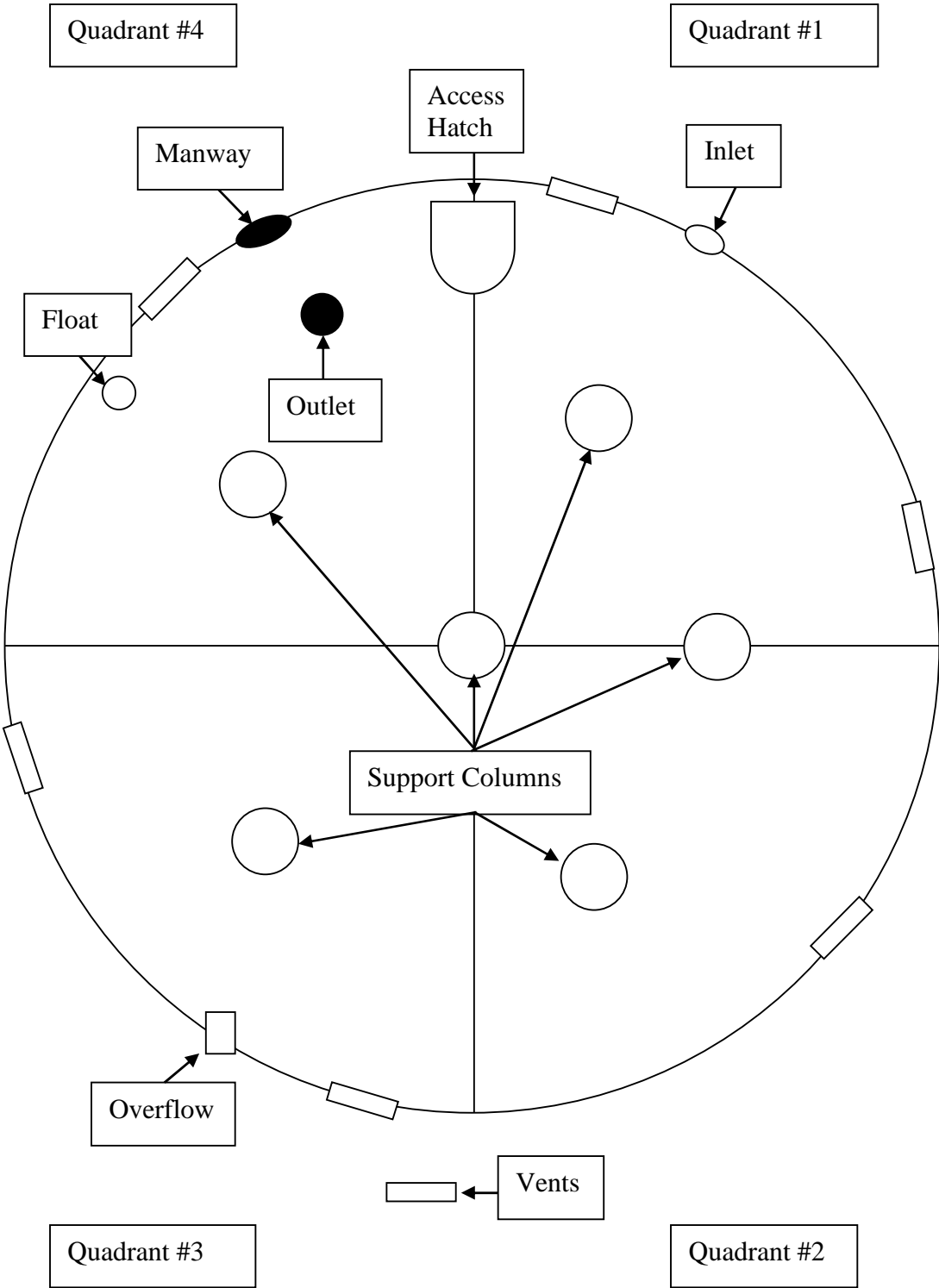
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The six support columns were found secure and in fair condition with heavy de-lamination, staining, 1/16 inch deep pitting, 1% rust noduling and 3% uniform surface corrosion noted.



Tank Layout





**Inspection Report for  
Great Basin Water Company  
Reno, NV**



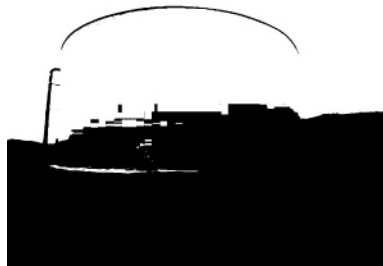
East Side



West Side



North Side



South Side

**Spring Creek  
1MG Steel On-Grade  
Track 200 Tank**

**Date Completed: May 19, 2019**

**Commercial Dive Team:**

**Diver – Nico LeBlanc  
Dive Controller – James Strickland  
Tender – Cory Repasi**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth, averaging 1/16 inch (iron & manganese), was removed from the 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 foundation was found in good condition with minor hairline cracking and minor to moderate moss growth noted.
3. The overflow was found in good condition with minor de-lamination and 0.01% uniform surface corrosion noted.
4. The wall was found in good condition with minor de-lamination noted and patches present in the 3:30 o'clock area.
5. The water level indicator was found in good condition with the upper section of the marker board faded out.
6. The manways were found secure and in good condition.
7. The hatch was found locked with a partial gasket present and in good condition with a broken hinge noted.
8. The ladder was found secure, OSHA approved and in good condition with 0.01% uniform surface corrosion noted.
9. The vent was found in good condition.
10. The roof was found in excellent to good condition.

### **Key**

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

## **Summary of the Inspection:**

### **Interior Inspection**

1. The interior roof was found in good condition with moisture present and 0.01% uniform surface corrosion noted.
2. The overflow was found in good condition with minor de-lamination and staining noted.
3. The ladder was found secure and in good condition with minor pinholes and staining noted.
4. The manways were found in good condition with minor pinholes and staining noted.
5. The interior wall was found in good condition with minor to moderate staining and rust noduling noted. The patches are still in good condition.
6. The floor was found in good condition with minor to moderate staining and 0.01% rust noduling noted.
7. The inlet was found in fair condition with moderate de-lamination, 0.01% uniform surface corrosion and 0.1% rust noduling noted.
8. The outlet was found in good condition with minor de-lamination, minor to moderate staining and large rock obstructions noted.
9. The float was found in good condition but the guidelines and cables are not attached.
10. The support column was found secure and in good condition with minor staining, blistering, 0.03% rust noduling and uniform surface corrosion noted.

### **Recommendations:**

1. Connect the water level indicator cable to the float.
2. Continue to schedule a clean and inspect every 3-5 years per AWWA recommendations.

### **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**



**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  N/A

Spalling Noted? Y  N  N/A

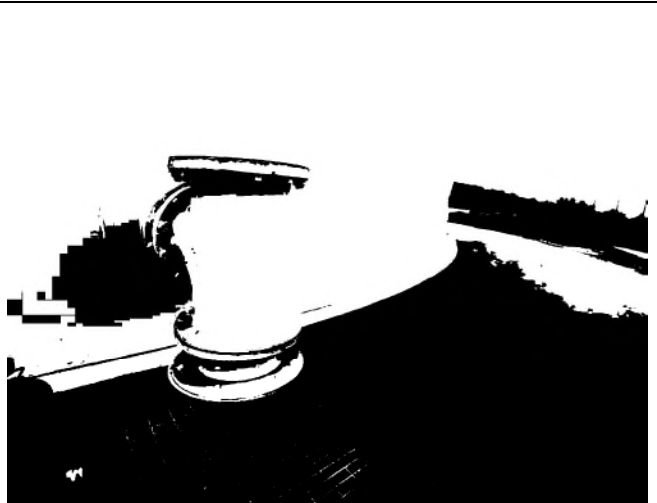
Summary: The foundation was found in good condition with minor hairline cracking and minor to moderate moss growth noted.



**Overflow Structure Condition**

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Directly Connected To Sewer or Drain? Y  N  N/A   
 End Cap Present? Y  N   
 Hinge and Cap Condition: N/A  
 #24 mesh Screen Present? Y  N   
 Condition: Good

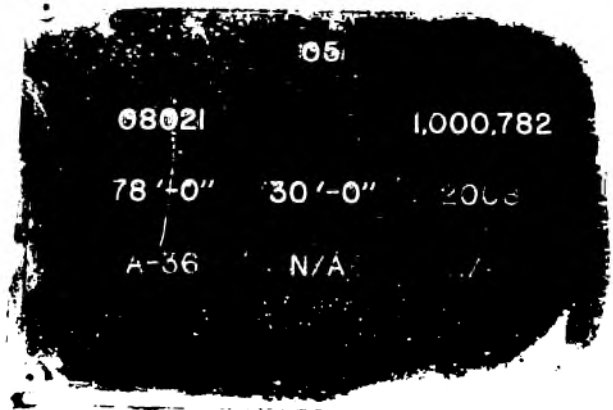
Summary: The overflow was found in good condition with minor de-lamination and 0.01% uniform surface corrosion noted.



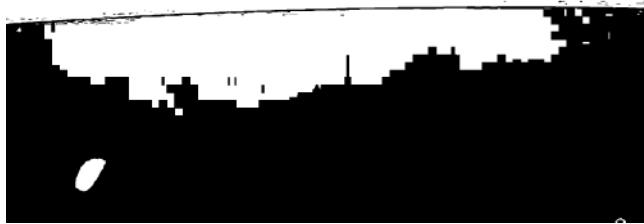
### Wall Panel Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N   
 Signs Of Leaking? Y  N

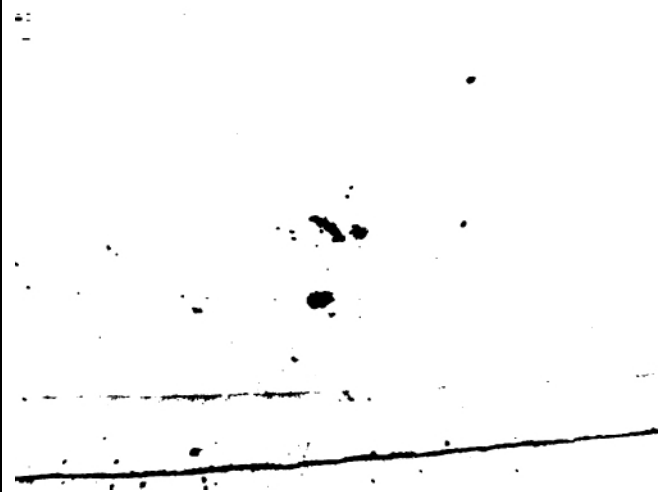
Summary: The wall was found in good condition with minor de-lamination noted and patches present in the 3:30 o'clock area.



Information plaque



Patches



De-lamination

### Water Level Indicator Condition

Marker Condition: Good  
 Attached & Accurate? Y  N   
 Marker Board Condition: Good/Fair  
 Is the level reading visible? Y  N   
 Pulley Condition: Good  
 Attached Properly? Y  N   
 Cable Condition: Good  
 Attached Properly? Y  N   
 Hardware Condition: Good  
 Corrosion Present? Y  N

Summary: The water level indicator was found in good condition with the upper section of the marker board faded out.

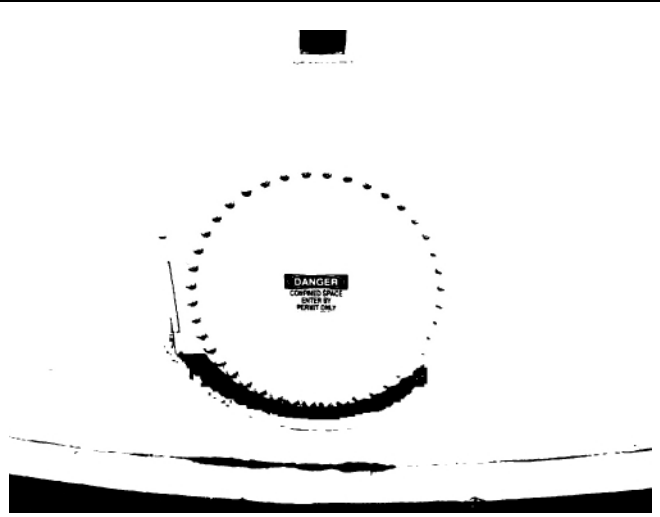
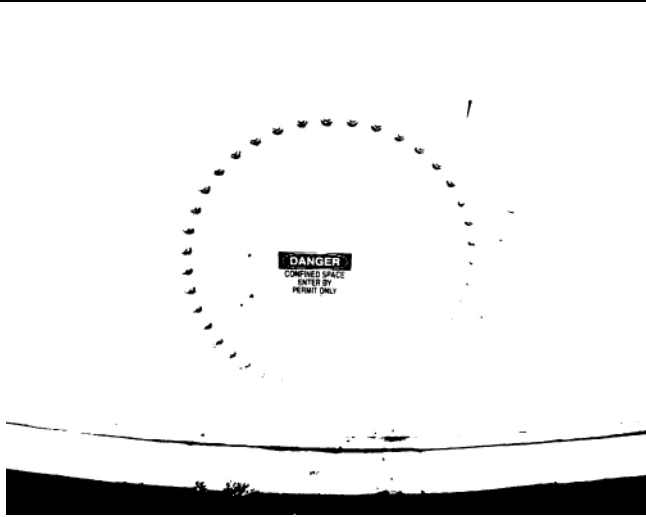


### Manway Condition

Coating Condition: Both Good  
 Weld/Seam Condition: Both Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manways were found secure and in good condition.



### Access Hatch Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present: Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Hatch Size: 3 foot square  
     Riser Height: 4 inches   Lid Height: 2 inches  
 Hatch Locked? Y  N   
 Hinge Condition: Poor  
 Gasket Present? Y  N   
     Intact? Y  N  N/A   
 Insects, Dirt Or Debris Present Under Hatch? Y  N

Summary: The hatch was found locked with a partial gasket present and in good condition with a broken hinge noted.

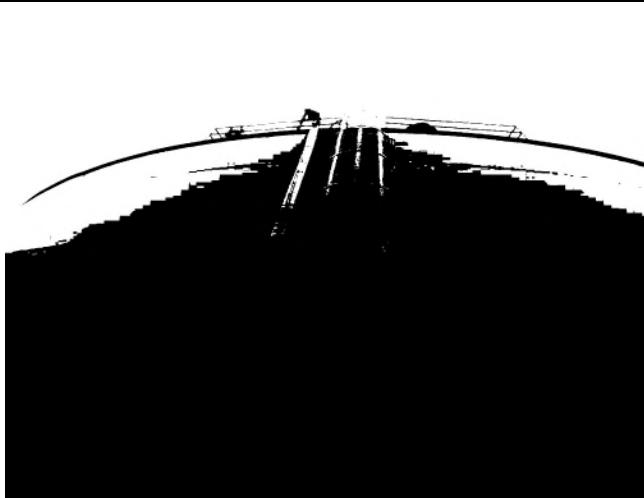


### Access Ladder Condition

Ladder Type: Steel welded  
 Is Ladder and Safety Climb **OSHA** Approved? Y  N   
 Is Vandal Guard Present? Y  N   
 Locked? Y  N  N/A   
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Coating Condition: Good  
 Seams/Welds Condition: Good

Stand Off Supports Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The ladder was found secure, OSHA approved and in good condition with 0.01% uniform surface corrosion noted.



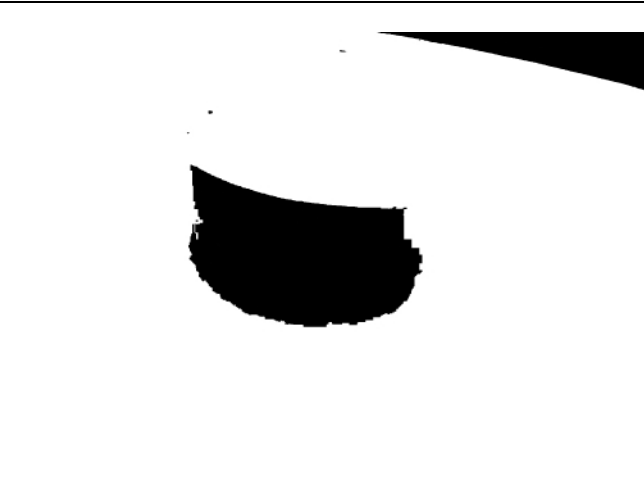
Top of safety cage

### Vent Condition

Coating Condition: Good  
 Seams/Welds Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

#24 Mesh Screen in Place? Y  N   
 Condition: Good  
 All Openings Sealed? Y  N   
 Cap Condition: Good

Summary: The vent was found in good condition.



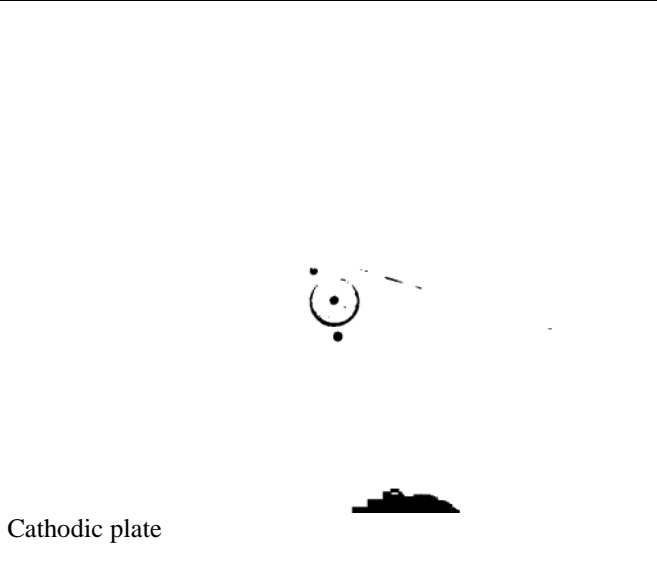
## Roof Condition

Roof Type: Pitched  
 Coating Condition: Excellent/Good  
 Seams/Welds Condition: Excellent/Good  
 Corrosion Present? Y  N   
 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

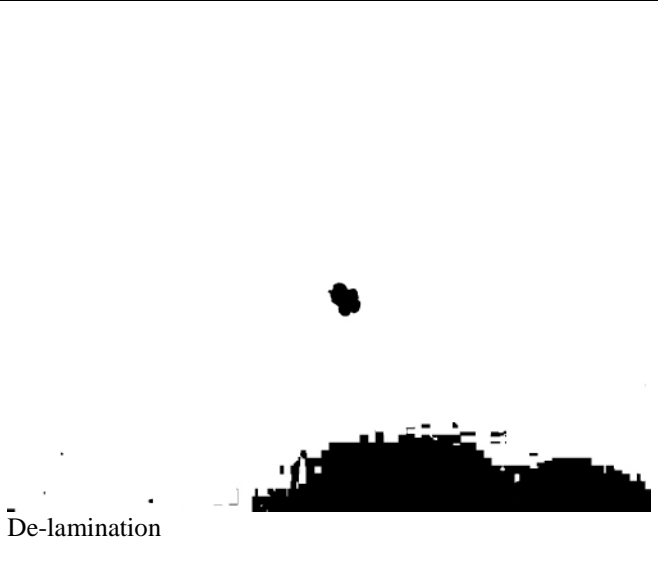
Summary: The roof was found in excellent to good condition.



Antenna on roof



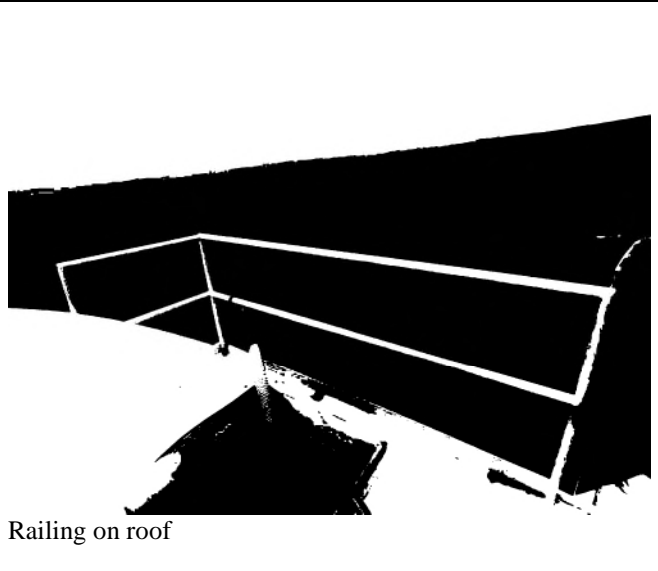
Cathodic plate



De-lamination



Roof overall



Railing on roof





# Inland Potable Services, Inc.

## Interior Inspection Report



### Roof Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present On Panels? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The interior roof was found in good condition with moisture present and 0.01% uniform surface corrosion noted.



Cathodic protection



### Overflow Condition

Overflow Location: 7:30 o'clock  
 Coating Condition: Good  
 Weld/Seam Condition: Good  
 Corrosion Present? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Summary: The overflow was found in good condition with minor de-lamination and staining noted.



De-lamination on edge of overflow

### Ladder Condition

Ladder Location: 12 o'clock  
Coating Condition: Good  
Weld/Seam Condition: Good  
Supports Condition: Good  
Corrosion Present? Y  N

Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The ladder was found secure and in good condition with minor pinholes and staining noted.



Ladder overall



Ladder support

### Manway Condition

Manway Location(s): 1:45 o'clock & 7 o'clock  
Coating Condition: Both Good  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N

De-lamination Present? Y  N

Summary: The manways were found in good condition with minor pinholes and staining noted.

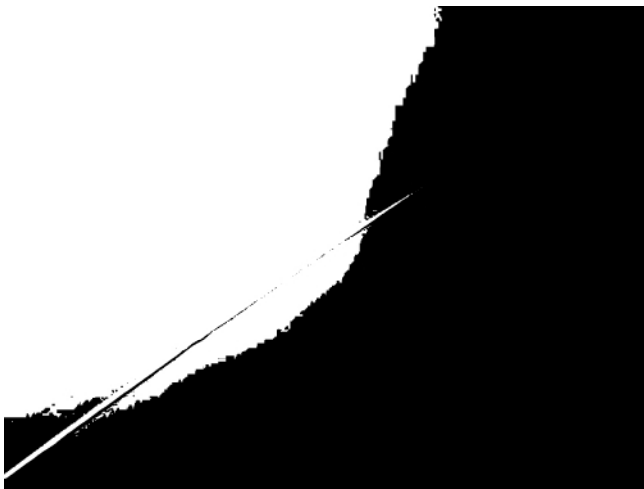


### Wall Panel Condition

Coating Condition: Good  
 Welds/seam Condition: Good  
 Corrosion Present On Panel? Y  N   
 Oxidation Present? Y  N   
 De-lamination Present? Y  N

Is Biofilm Present: Y  N   
 Any irregularities or structural deficiencies? Y  N

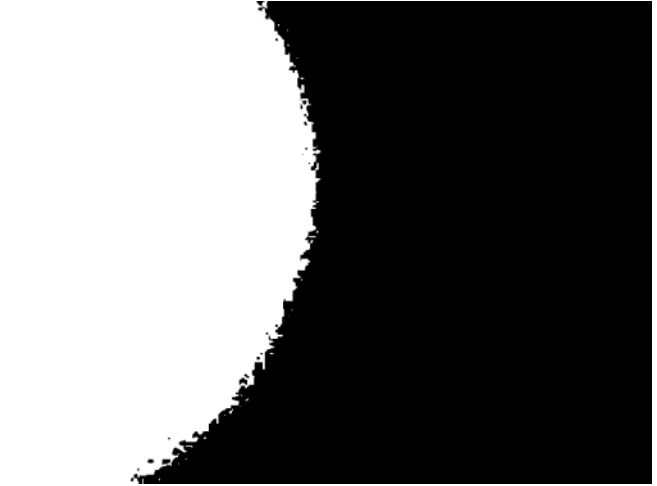
Summary: The interior wall was found in good condition with minor to moderate staining and rust noduling noted. The patches are still in good condition.



Upper wall



Upper wall



Wall Panel Condition continued



Patch



Patch



Patch

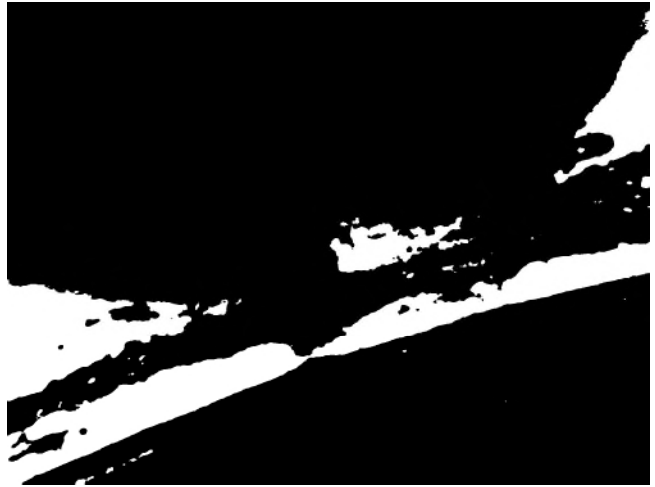


Patch

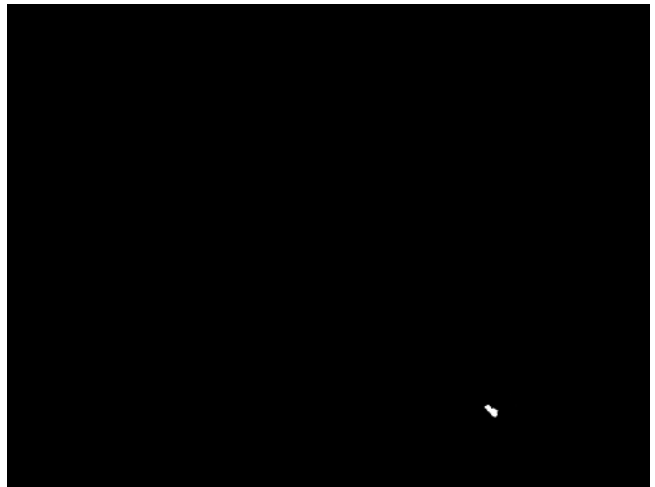
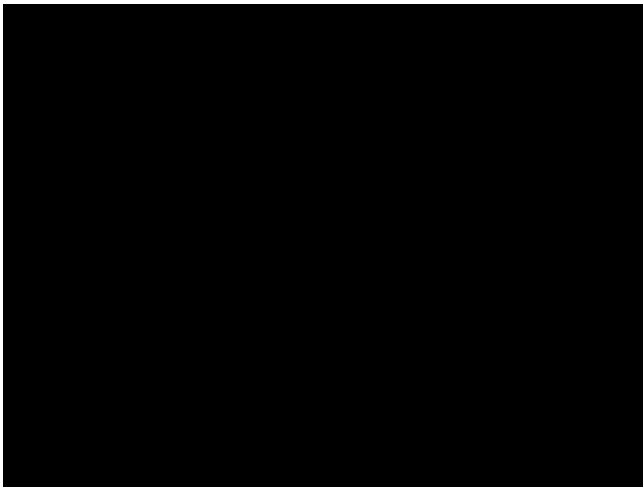
### Floor Condition

Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N   
Sediment Depth: 1/16 inch  
Any irregularities or structural deficiencies? Y  N

Summary: The floor was found in good condition with minor to moderate staining and 0.01% rust noduling noted.



Noduling

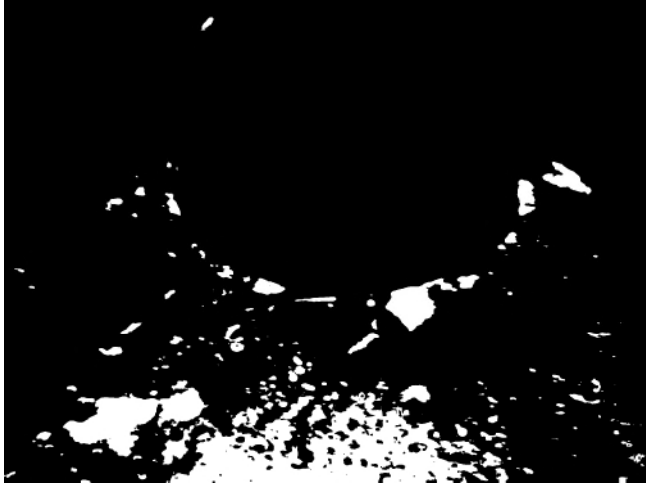
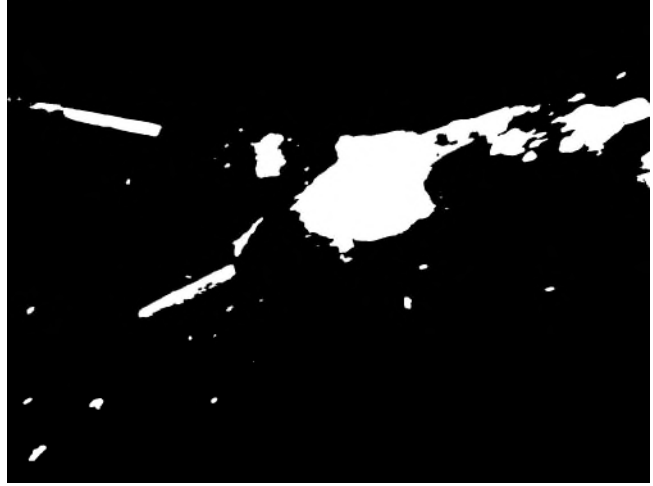
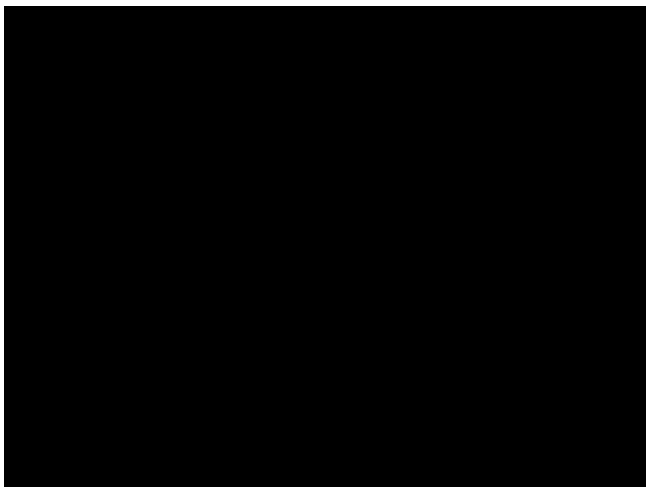



Floor to wall seam



Floor to wall seam

### Inlet and Outlet Condition

<p>Common Inlet/Outlet? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Location: N/A                  If Separate:                  Inlet Location: 5 o'clock                  Coating Condition: Fair/Poor                  Weld/Seam Condition: Good                  Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p>	<p>Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>                  De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>                   Summary: The inlet was found in fair condition with moderate de-lamination, 0.01% uniform surface corrosion and 0.1% rust noduling noted.</p>
	 <p style="text-align: center;">Noduling on edge of inlet</p>
<p>Common Inlet/Outlet? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Location: N/A                  If Separate:                  Outlet Location: 11:45 o'clock                  Coating Condition: Good                  Weld/Seam Condition: Good                  Corrosion Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	<p>Oxidation Present? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>                  De-lamination Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>                   Summary: The outlet was found in good condition with minor de-lamination, minor to moderate staining and large rock obstructions noted.</p>
	 <p style="text-align: center;">Top of outlet</p>

### Float Condition

Float Location: 11:55 o'clock

Guidelines Condition: Good

Attached Properly? Y  N

Cable Condition: Good

Attached Properly? Y  N

Hardware Condition: Good

Corrosion Present? Y  N

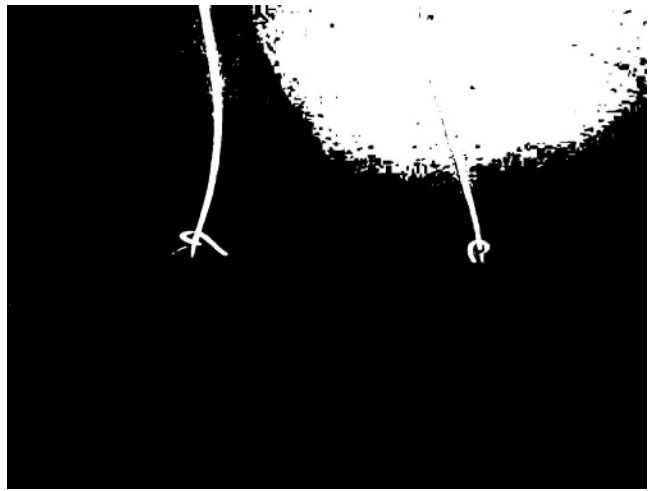
Float Condition: Good

Sealed? Y  N

Summary: The float was found in good condition but the guidelines and cables are not attached.



Float



Guidewires



Guidewire anchor



Guidewire anchor

**Support Column Condition**

Number Of Columns: 1  
Coating Condition: Good  
Welds/seam Condition: Good  
Corrosion Present? Y  N   
Oxidation Present? Y  N   
De-lamination Present? Y  N

Summary: The support column was found secure and in good condition with minor staining, blistering, 0.03% rust noduling and uniform surface corrosion noted.



Base of column



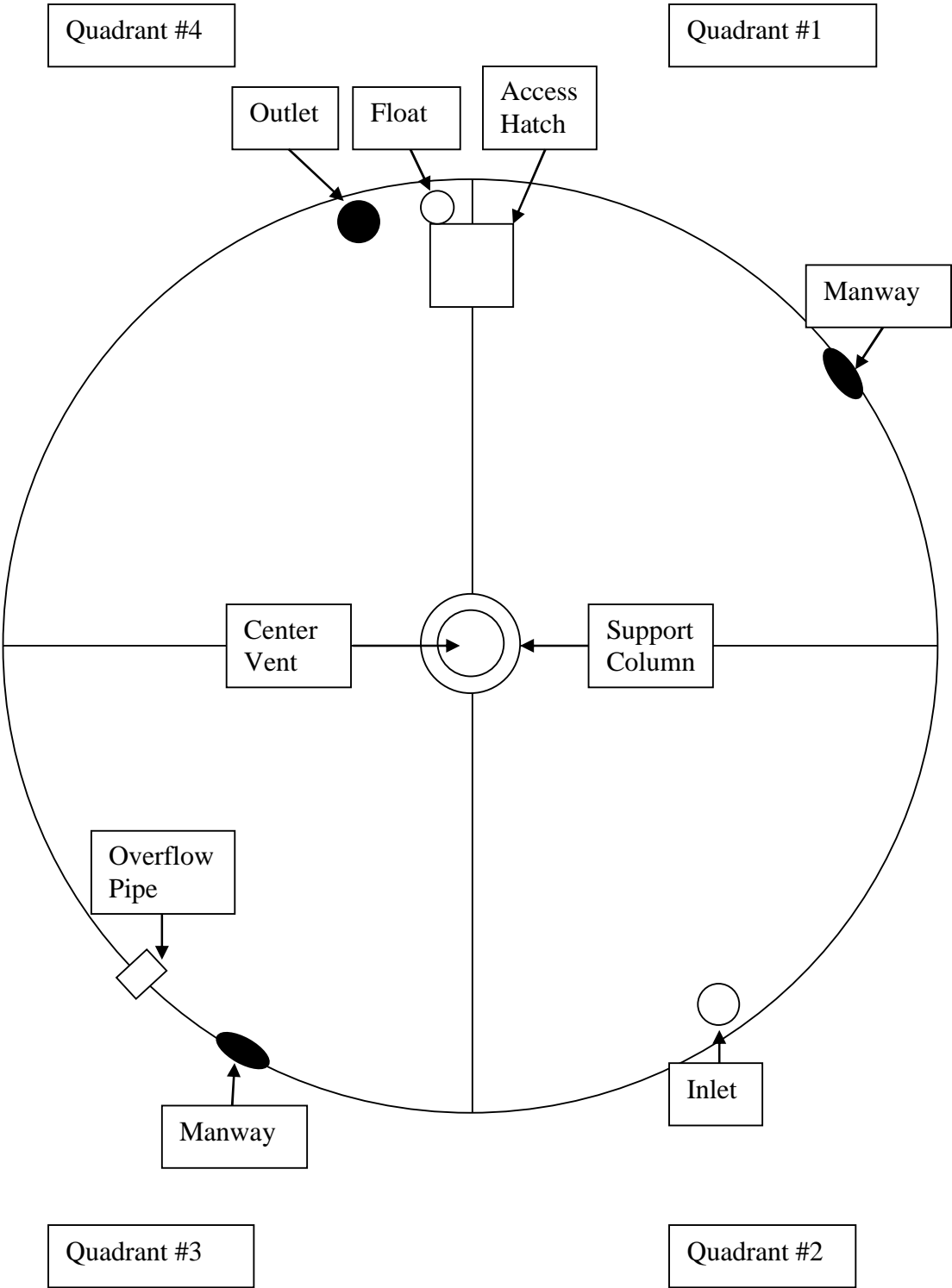
Contact corrosion



Noduling



Tank Layout

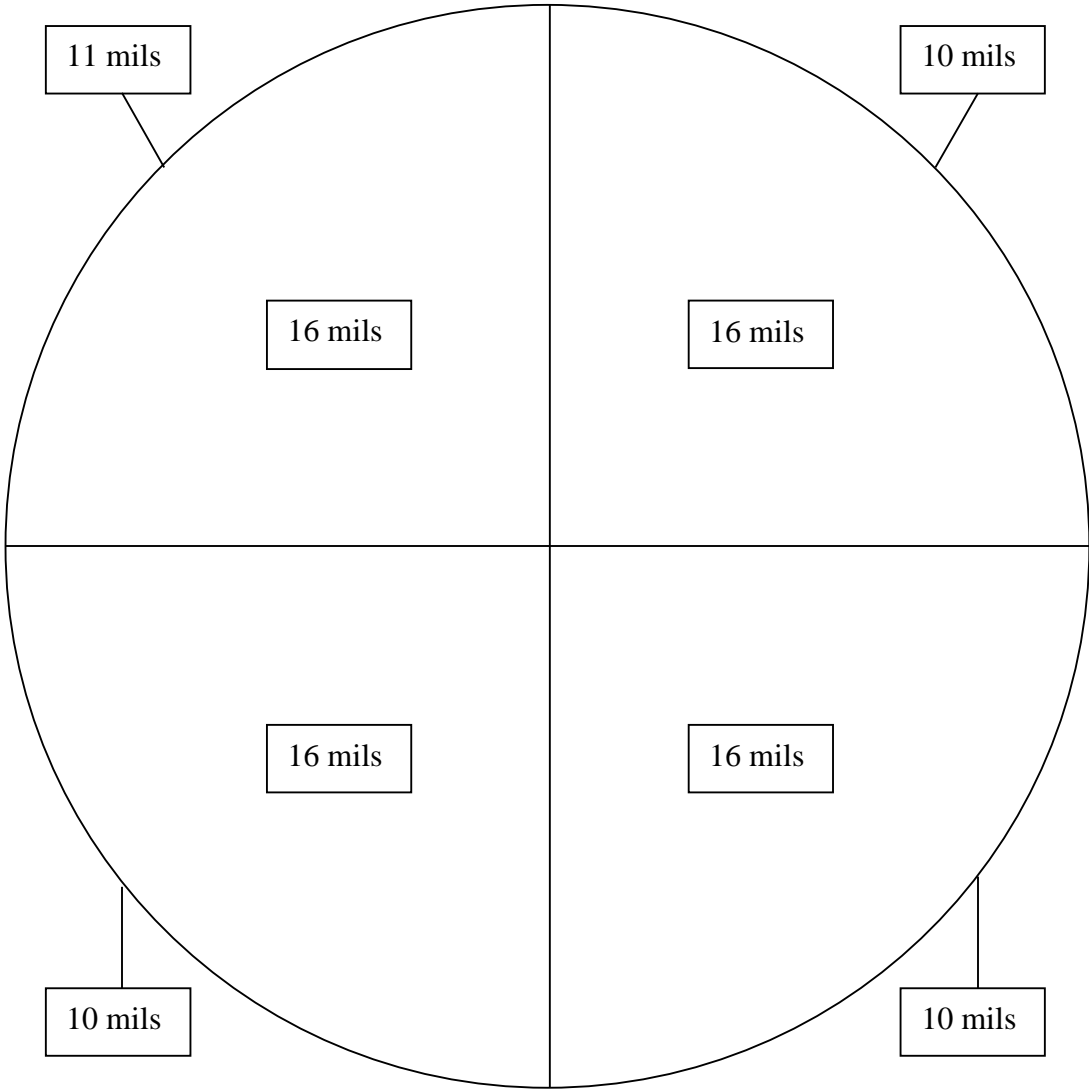


**Tank Layout**

Roof and Wall Coating Thickness Measurements

Quadrant #4

Quadrant #1



Quadrant #3

Quadrant #2

Tank Layout

Ultrasonic Metal Thickness Testing

Quadrant #4

Quadrant #1

.312

.318

.316

.310

.308

N/A

N/A

.314

.268

N/A

N/A

.270

.316

.314

.314

.318

Quadrant #3

Quadrant #2

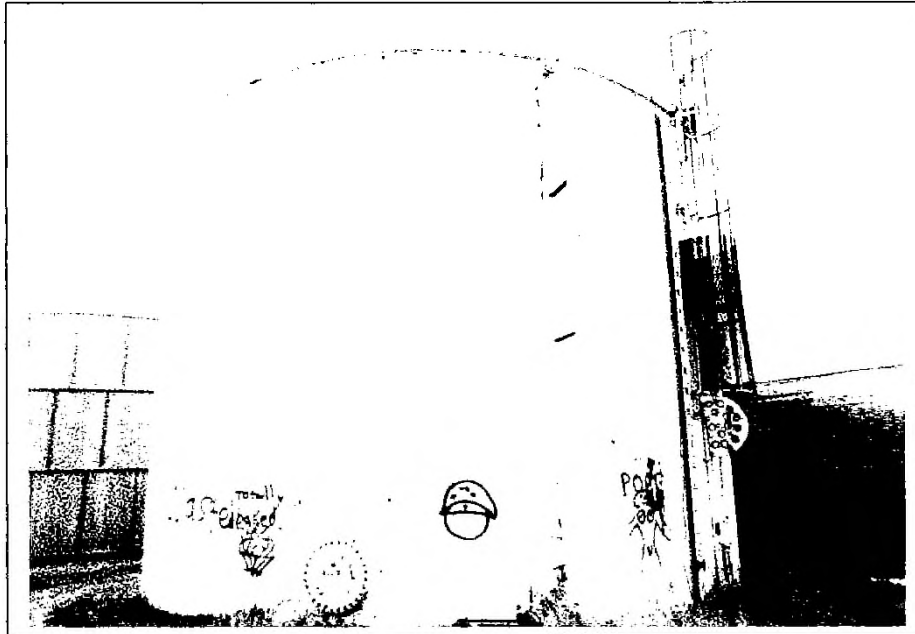
N/A = Accurate readings of the metal thickness of the interior floor could not be obtained due to the absence of a solid top surface. Ultrasonic testing requires a solid surface on both the interior and exterior metal panel.



---

---

**Inspection Report for  
Spring Creek Utilities Company  
Spring Creek, NV**



**250KG Steel On-Grade  
Tank 103 Site 100 Tract**

**Date Completed: February 10, 2014**

**Commercial Dive Team:**

**Diver –Nick Blumenblat  
Dive Controller –Jeff Roberts  
Tender –Keegan Nace**

## **Scope of Work:**

Our team completed sediment removal using underwater vacuum equipment. Sediment depth averaging 3 inches (sand) 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.
2. The ladder and overflow were found in fair condition with de-lamination, oxidation and corrosion noted.
3. The roof was found in poor condition with holes, low spots, de-lamination, oxidation and 33% surface corrosion noted.
4. The hatch was found locked with no gasket present and in fair condition with de-lamination, oxidation and corrosion noted.
5. The wall was found in fair condition with dents, de-lamination and 10% surface corrosion noted. There was also graffiti present.
6. The base of the tank was found in fair to poor condition with what appears to be erosion beginning to occur.
7. The manways were found in fair condition with 3% surface corrosion noted.

### **Interior Inspection**

1. The inlet was found in fair to poor condition with 100% surface corrosion noted.
2. The outlet, manways and interior wall were found in poor condition with pitting and 100% rust noduling & surface corrosion noted.
3. The overflow was found in fair condition with 100% concentrated cell corrosion, rust noduling & surface corrosion noted. The hole was blocked with debris but it was removed by the diver.
4. The drain was found in fair condition with rust noduling and 100% surface corrosion noted.
5. The interior roof was found in fair to poor condition with de-alloying and 100% concentrated cell corrosion, rust noduling & surface corrosion noted.
6. The support column was found in poor condition with pitting and 100% concentrated cell corrosion, rust noduling & surface corrosion noted.
7. The floor was found in poor condition with heavy metal loss, pitting, de-alloying and 100% rust noduling & surface corrosion noted.

## **Recommendations:**

1. Decommission tank and replace.

### **Key**

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**

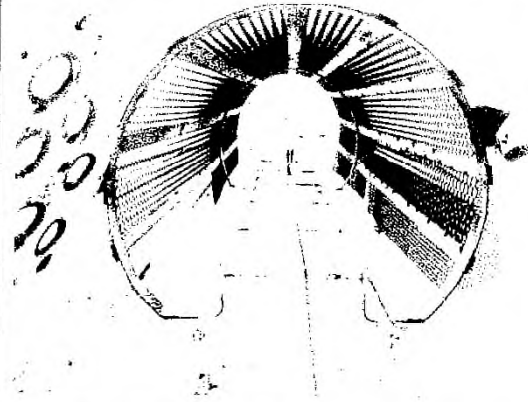


## Inland Potable Services, Inc. Exterior Inspection Report



### Access Ladder Condition

Ladder Type: Steel  
 Coating Condition: Poor  
 Corrosion Present? Y  N   
 Seams/Welds Condition: Fair  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Stand Off Supports Condition: Fair  
 Safety Climb Type: Cage & Cable Grab  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Is The Ladder and Safety Climb OSHA Approved? Y  N



Summary: The ladder was found secure, OSHA approved and in fair condition with de-lamination, oxidation and corrosion noted.

### Roof Condition

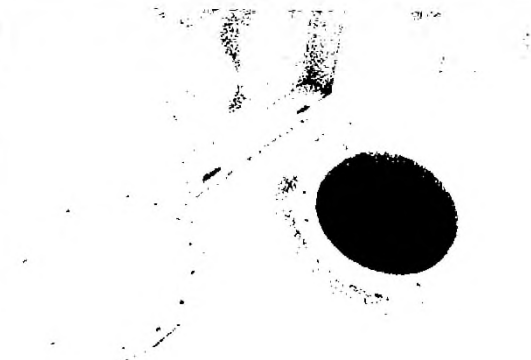
Coating Condition: Poor  
 Corrosion Present? Y  N   
 Percentage: 33%  
 Seams/Welds Condition: Fair/Poor  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Low Spots Present? Y  N   
 Holes in Roof? Y  N   
 Cathodic Protection Plates Present? Y  N   
 Sealed Edges: Y  N  N/A   
 Loose Plates? Y  N  N/A   
 Missing Plates? Y  N  N/A



Summary: The roof was found in poor condition with holes, low spots, de-lamination, oxidation and 33% surface corrosion noted.

### Access Hatch Condition

Coating Condition: Poor  
 Corrosion Present: Y  N   
 Seams/Welds Condition: Fair  
 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

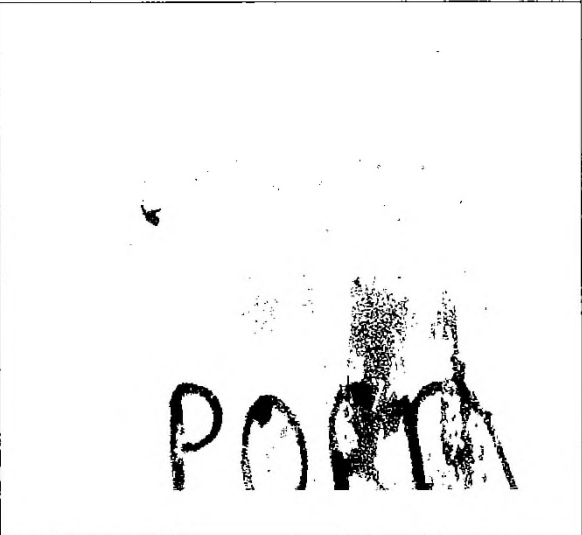


Summary: The hatch was found locked with no gasket present and in fair condition with de-lamination, oxidation and corrosion noted.

**Wall Panel Condition**

Coating Condition: Poor  
 Corrosion Present? Y  N   
 Percentage: 10%  
 Seams/Welds Condition: Fair  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N

Summary: The wall was found in fair condition with dents, de-lamination and 10% surface corrosion noted. There was also graffiti present.



**Overflow Structure Condition**

Coating Condition: Fair  
 Corrosion Present? Y  N   
 Percentage: 3%  
 Seams/Welds Condition: Fair  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Stand Off Supports Condition: Poor  
 End Cap Present? Y  N   
 Hinge And Cap Condition: N/A  
 Screen Present? Y  N   
 Condition: N/A

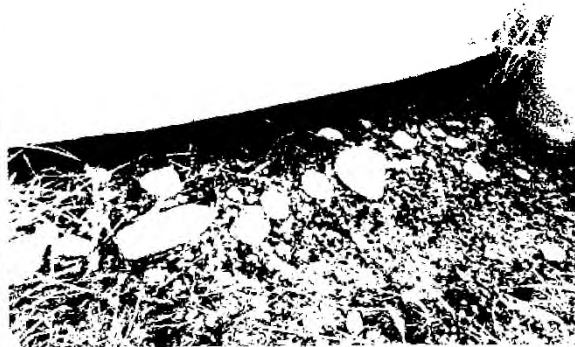
Summary: The overflow was found in fair condition with de-lamination, oxidation and 3% surface corrosion noted.



**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  N/A   
 Spalling Noted? Y  N  N/A

Summary: The base of the tank was found in fair to poor condition with what appears to be erosion beginning to occur.



**Manway Condition**

Coating Condition: Both Poor  
 Weld/Seam Condition: Both Fair  
 Corrosion Present? Y  N   
 Percentage: 3%

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

Summary: The manways were found in fair condition with 3% surface corrosion noted.







**Inland Potable Services, Inc.**  
**Interior Inspection Report**



**Inlet and Outlet Condition**

Common Inlet/Outlet? Y  N  Location: N/A

If No:

Inlet Location: 1:45 o'clock

Coating Condition: Poor

Weld/Seam Condition: Poor

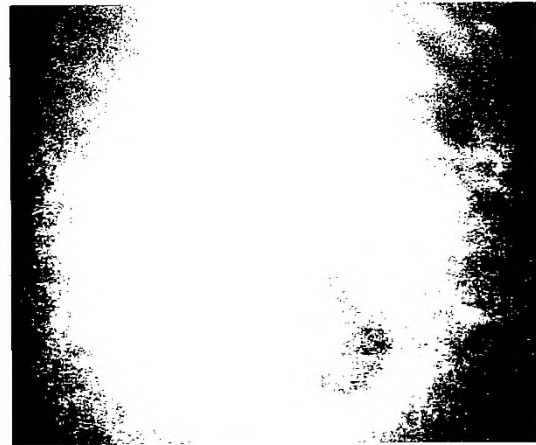
Corrosion Present? Y  N

Percentage: 100%

Pitting Noted In Metal? Y  N

Depth: N/A

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



Common Inlet/Outlet? Y  N  Location: N/A

If No:

Outlet Location: 9 o'clock

Coating Condition: Poor

Weld/Seam Condition: Poor

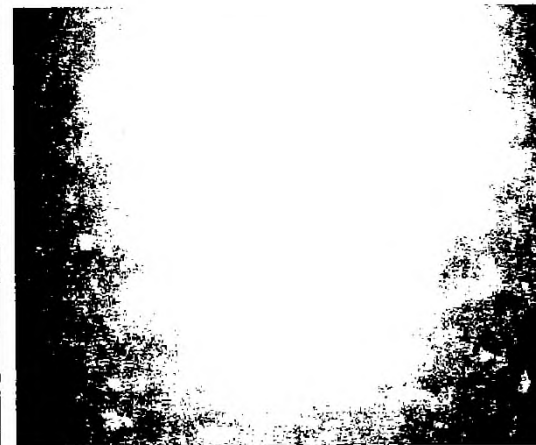
Corrosion Present? Y  N

Percentage: 100%

Pitting Noted In Metal? Y  N

Depth: 1/8 inch

Summary: The outlet was found in poor condition with pitting and 100% rust noduling & surface corrosion noted.



**Manway Condition**

Manway Locations: 2 o'clock & 8 o'clock  
Coating Condition: Poor  
Weld/Seam Condition: Poor  
Corrosion Present? Y  N   
Percentage: 100%

Pitting Noted In Metal? Y  N   
Depth: 1/8 inch

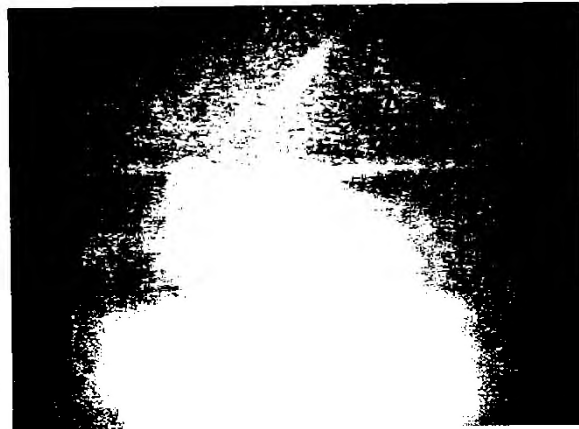
Summary: The manways were found in poor condition with pitting and 100% rust noduling & surface corrosion noted.



**Overflow Condition**

Overflow Location: 1:30 o'clock  
Coating Condition: N/A  
Weld/Seam Condition: Fair  
Corrosion Present? Y  N   
Percentage: 100%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The overflow was found in fair condition with 100% concentrated cell corrosion, rust noduling & surface corrosion noted. The hole was blocked with debris but it was removed by the diver.



### Drain Condition

Drain Location: 1:30 o'clock  
Coating Condition: Poor  
Weld/Seam Condition: Poor  
Corrosion Present? Y  N   
Percentage: 100%  
Pitting Noted In Metal? Y  N   
Depth: N/A

Summary: The drain was found in fair condition with rust noduling and 100% surface corrosion noted.



### Wall Panel Condition

Coating Condition: Poor  
Welds/seam Condition: Poor  
Corrosion Present On Panel? Y  N   
Percentage: 100%  
Pitting Noted In Metal? Y  N   
Depth: 1/8 inch

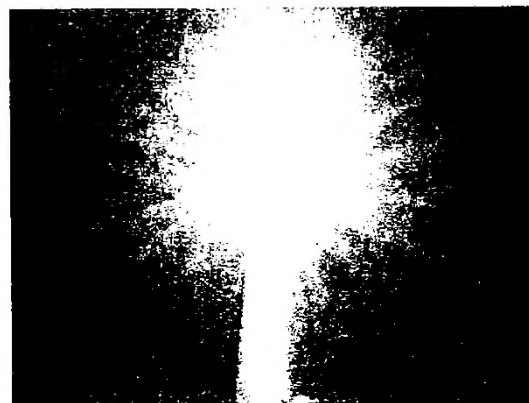
Summary: The interior wall was found in poor condition with pitting and 100% rust noduling & surface corrosion noted.



### Roof Condition

Coating Condition: Poor  
Welds/seam Condition: Fair  
Corrosion Present On Panels? Y  N   
Percentage: 100%  
Metal De-alloying Noted? Y  N   
Percentage: less than 1%

Summary: The interior roof was found in fair to poor condition with de-alloying and 100% concentrated cell corrosion, rust noduling & surface corrosion noted.



**Support Column Condition**

Coating Condition: Poor  
Welds/seam Condition: Poor  
Corrosion Present? Y  N   
Percent: 100%  
Pitting Noted In Metal? Y  N   
Depth: 1/16 inch

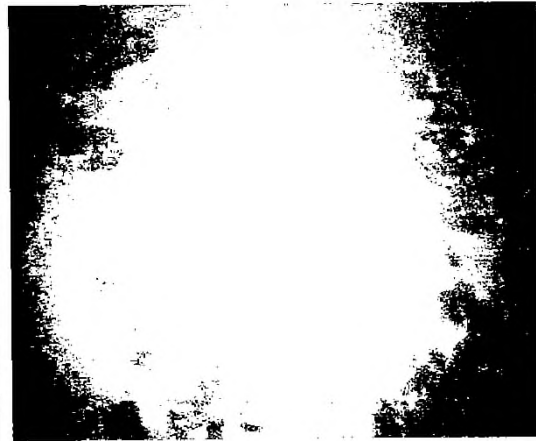
Summary: The support column was found in poor condition with pitting and 100% concentrated cell corrosion, rust noduling & surface corrosion noted.

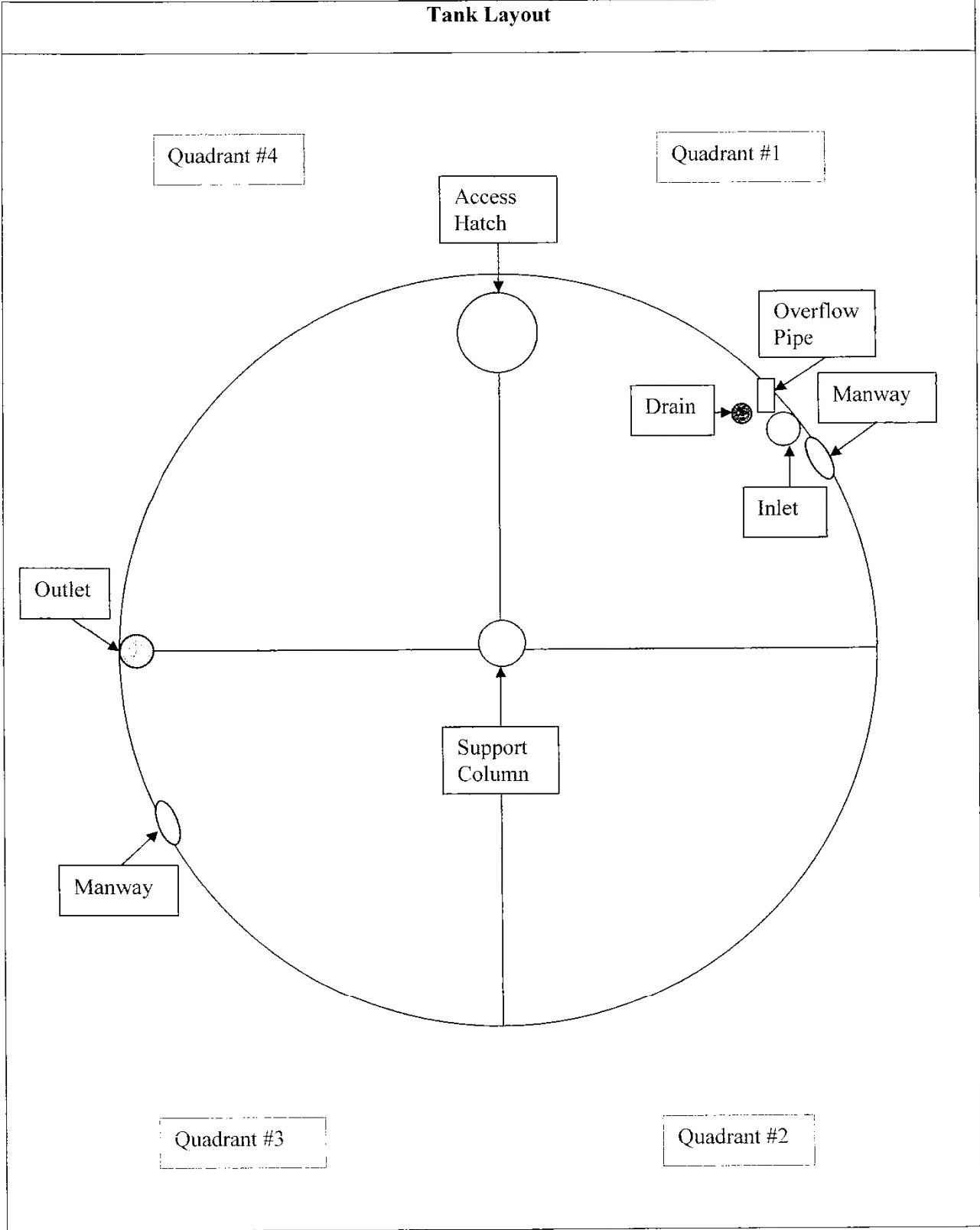


**Floor Condition**

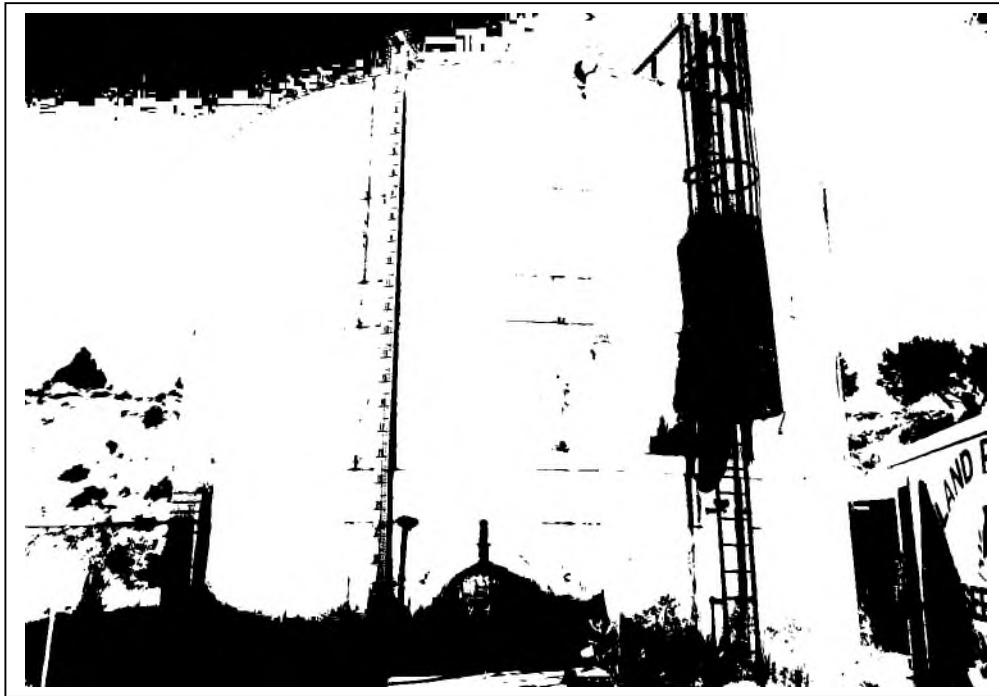
Coating Condition: Poor  
Welds/seam Condition: Poor  
Corrosion Present? Y  N   
Percentage: 100%  
Pitting Noted In Metal? Y  N   
Depth: 1/32 to 1/4 inch

Summary: The floor was found in poor condition with heavy metal loss, pitting, de-alloying and 100% rust noduling & surface corrosion noted.





**Inspection Report for  
Spring Creek Utilities Company  
Spring Creek, NV**



**210KG Steel On-Grade  
Tract 106 Tank**

**Date Completed: July 24, 2014**

**Commercial Dive Team:**

**Diver –Dustin Windell  
Dive Controller –Dave Scott  
Tender –Jeff Roberts**

## **Scope of Work:**

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 ladder was found secure, OSHA approved and in good condition with oxidation and corrosion noted.
3. The roof was found in fair condition with low spots, de-lamination, oxidation and 10% surface corrosion noted.
4. The hatch was found locked with no gasket present and in good condition with oxidation and corrosion noted.
5. The wall was found in poor condition with sags & runs in the coating, chalking, dents, oxidation and 1% corrosion noted. There is also a leak over one of the manways.
6. The exposed section of the overflow (PVC) was found in good condition.
7. The base of the tank was found in good condition.
8. The manways were found secure and in good condition with 2% corrosion noted.

### **Interior Inspection**

1. The common inlet/outlet was found in poor condition with pitting and 100% corrosion noted.
2. The manways were found in poor condition with 100% corrosion noted.
3. The overflow was found in fair condition with 100% surface corrosion noted.
4. The interior wall was found in poor condition with blistering, cracking, de-alloying, pitting, heavy rust noduling and 75% surface corrosion noted.
5. The interior roof was found in fair condition with 90% surface corrosion noted.
6. The support column was found in fair condition with cracking, blistering, heavy rust noduling and 100% concentrated cell corrosion & surface corrosion noted.
7. The floor was found in poor condition with de-alloying, 30% rust noduling and 50% surface corrosion noted. Approximately 1/8 inch of sand was present.

## **Recommendations:**

1. Because of all the metal loss and coating failure noted throughout the tank, it is recommended that you decommission and replace the tank.

## **Key**

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

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

**Fair – Minor problems, repairs needed**

**Poor – Major problems, fix now**



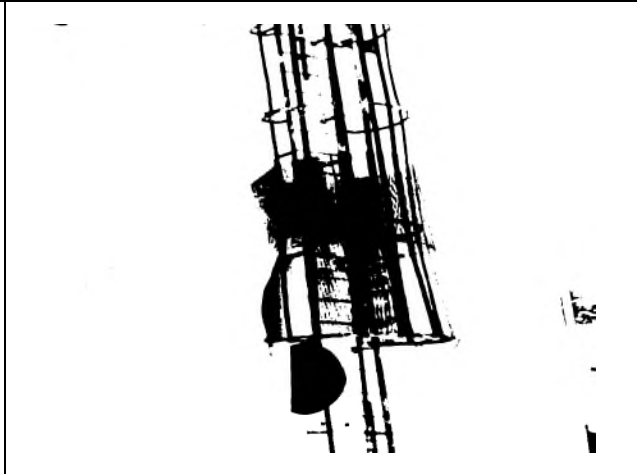
# Inland Potable Services, Inc.

## Exterior Inspection Report



### Access Ladder Condition

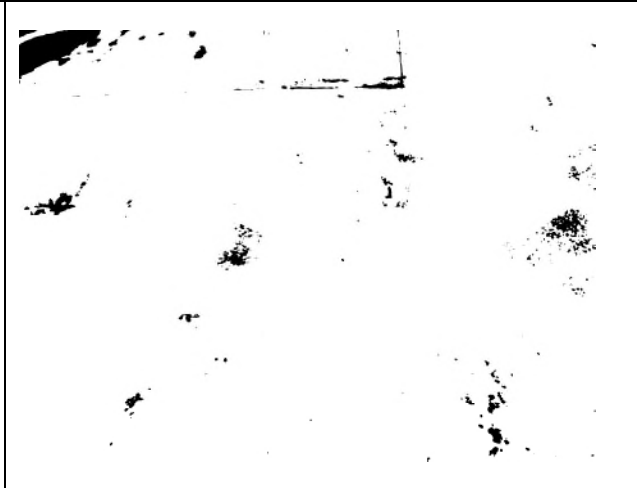
Ladder Type: Steel  
 Coating Condition: Poor  
 Corrosion Present? Y  N   
 Seams/Welds Condition: Good  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Stand Off Supports Condition: Good  
 Safety Climb Type: Cage  
 Safety Climb Condition: Good  
 Is Top Of Tank Easily Accessible? Y  N   
 Is The Ladder and Safety Climb OSHA Approved? Y  N



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

### Roof Condition

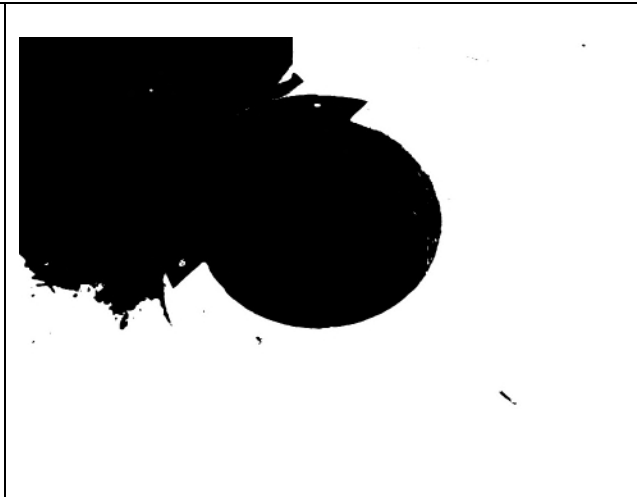
Coating Condition: Poor  
 Corrosion Present? Y  N   
 Percentage: 10%  
 Seams/Welds Condition: Fair  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Low Spots Present? Y  N   
 Holes in Roof? Y  N   
 Cathodic Protection Plates Present? Y  N   
 Sealed Edges: Y  N  N/A   
 Loose Plates? Y  N  N/A   
 Missing Plates? Y  N  N/A



Summary: The roof was found in fair condition with low spots, de-lamination, oxidation and 10% surface corrosion noted.

### Access Hatch Condition

Coating Condition: Fair  
 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



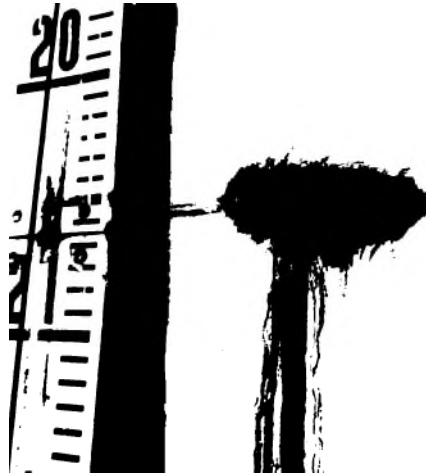
Summary: The hatch was found locked with no gasket present and in good condition with oxidation and corrosion noted.



### Wall Panel Condition

Coating Condition: Fair  
 Corrosion Present? Y  N   
 Percentage: 1%  
 Seams/Welds Condition: Poor  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Dents Present? Y  N   
 Holes Present? Y  N

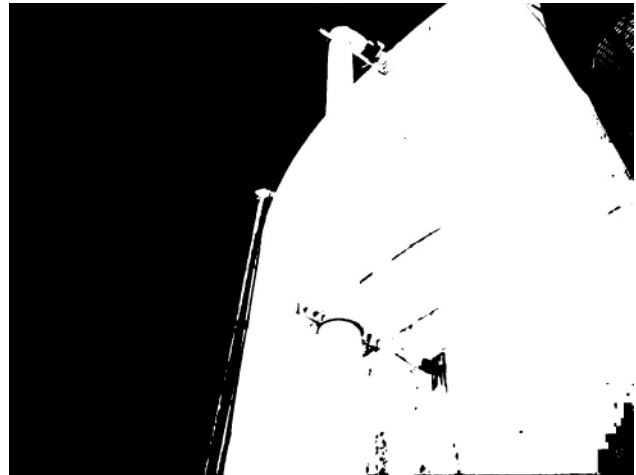
Summary: The wall was found in poor condition with sags & runs in the coating, chalking, dents, oxidation and 1% corrosion noted. There is also a leak over one of the manways.



### Overflow Structure Condition

Coating Condition: N/A  
 Corrosion Present? Y  N   
 Percentage: N/A  
 Seams/Welds Condition: N/A  
 Oxidation Present? Y  N   
 De-lamination Present? Y  N   
 Stand Off Supports Condition: Good  
 End Cap Present? Y  N   
 Hinge And Cap Condition: N/A  
 Screen Present? Y  N   
 Condition: N/A

Summary: The exposed section of the overflow (PVC) was found in good condition.



### 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  N/A   
 Spalling Noted? Y  N  N/A

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

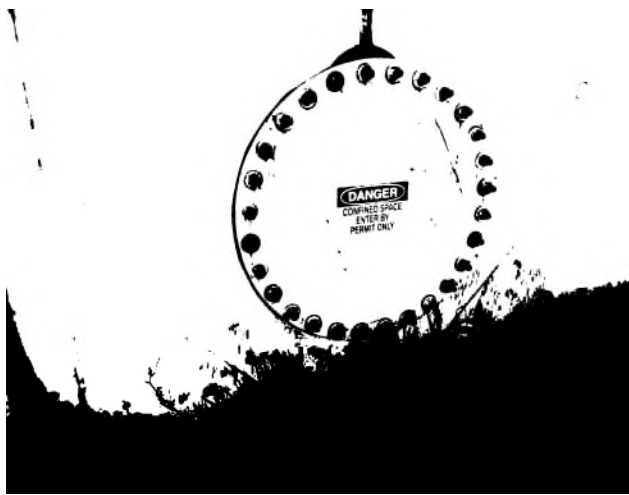


### Manway Condition

Coating Condition: Both Fair  
Weld/Seam Condition: Both Good  
Corrosion Present? Y  N   
Percentage: 2%

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

Summary: The manways were found secure and in good condition with 2% corrosion noted.

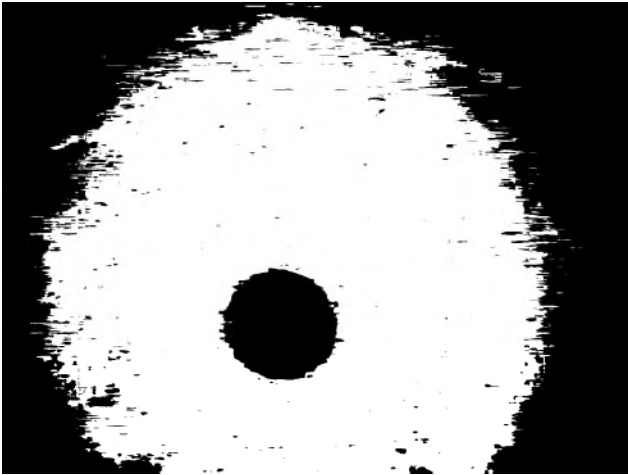




# Inland Potable Services, Inc.

## Interior Inspection Report



<b>Inlet and Outlet Condition</b>	
<p>Common Inlet/Outlet? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Location: 10 o'clock            If No:            Outlet Location: N/A            Inlet Location: N/A            Coating Condition: Poor            Weld/Seam Condition: Poor            Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>                Percentage: 100%            Pitting Noted In Metal? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>                Depth: Unknown</p> <p>Summary: The common inlet/outlet was found in poor condition with pitting and 100% corrosion noted.</p>	
<b>Manway Condition</b>	
<p>Manway Locations: 1 o'clock &amp; 7 o'clock            Coating Condition: Both Poor            Weld/Seam Condition: Both Fair            Corrosion Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>                Percentage: 100%</p>	<p>Pitting Noted In Metal? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>            Depth: N/A</p> <p>Summary: The manways were found in poor condition with 100% corrosion noted.</p>
