



EPA Region 8 - Significant Deficiencies

WWQ-PCA Fall Conference October 2020



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Outline

- What is a sanitary survey?
- What is a significant deficiency?
- How to prepare for a sanitary survey site visit.
- What happens after the sanitary survey site visit.



Sanitary Surveys:

Definition of a Sanitary Survey:

On-site review of a public water system's:

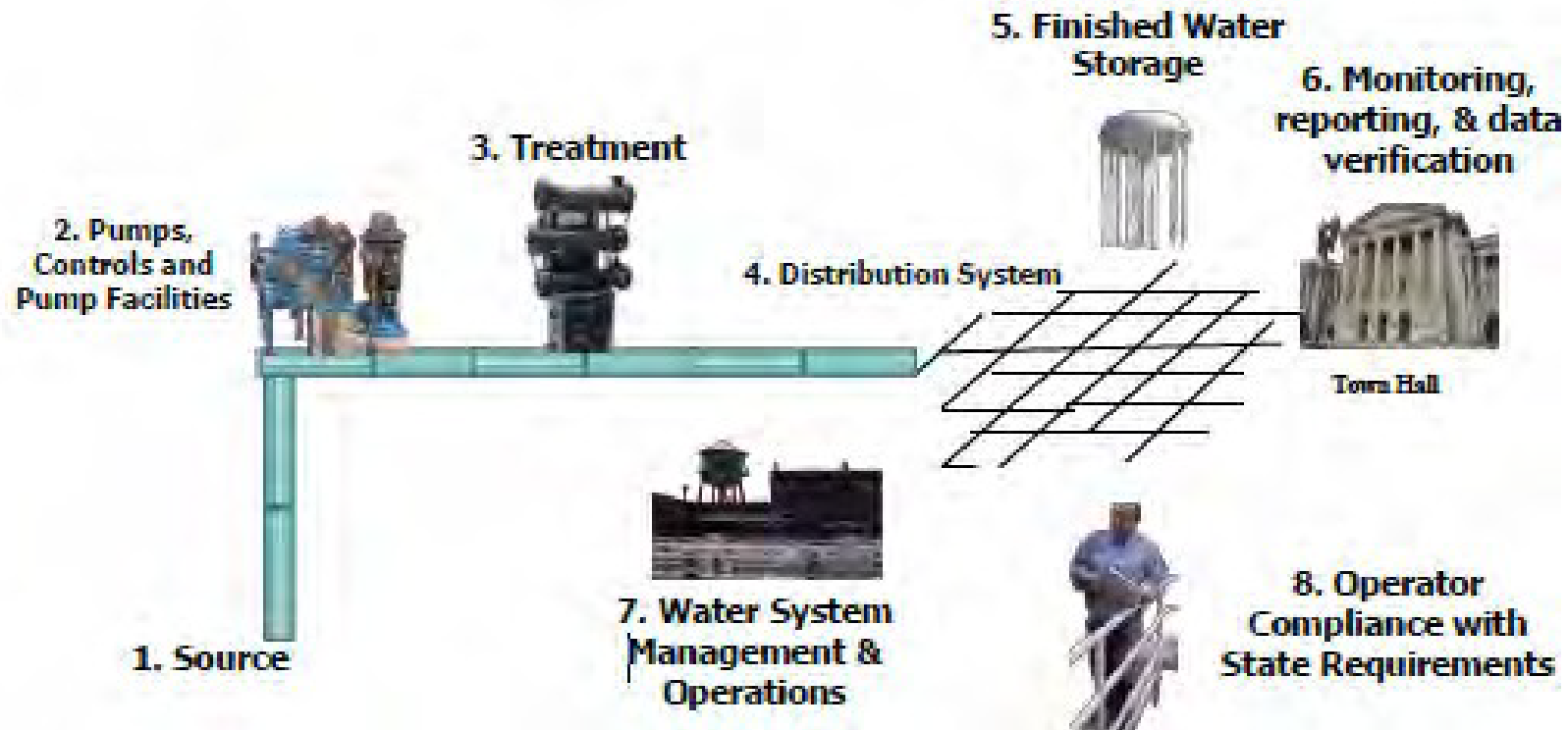
- water source,
- facilities,
- equipment,
- operation and maintenance.



Sanitary Surveys assess a system's capability to supply safe drinking water.



Sanitary surveys assess 8 elements:





GWR and SWTR Significant Deficiencies

- Include, but are not limited to, defects in the design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system **that EPA determines to be causing or have the potential for causing the introduction of contamination into the water delivered to consumers.**



Examples of GW Source Significant Deficiencies



No Wellhead
Sanitary Seal;
Conduit & Wires
Not Properly
Sealed



Lack of a sanitary
seal on the well
casing

Conduit
not sealed





Storage Tank Significant Deficiencies:



Overflow screening is torn
and needs replaced

Lack of #24 mesh screen on
the air vent





Storage Tank Significant Deficiencies:



Unprotected openings in storage tank.

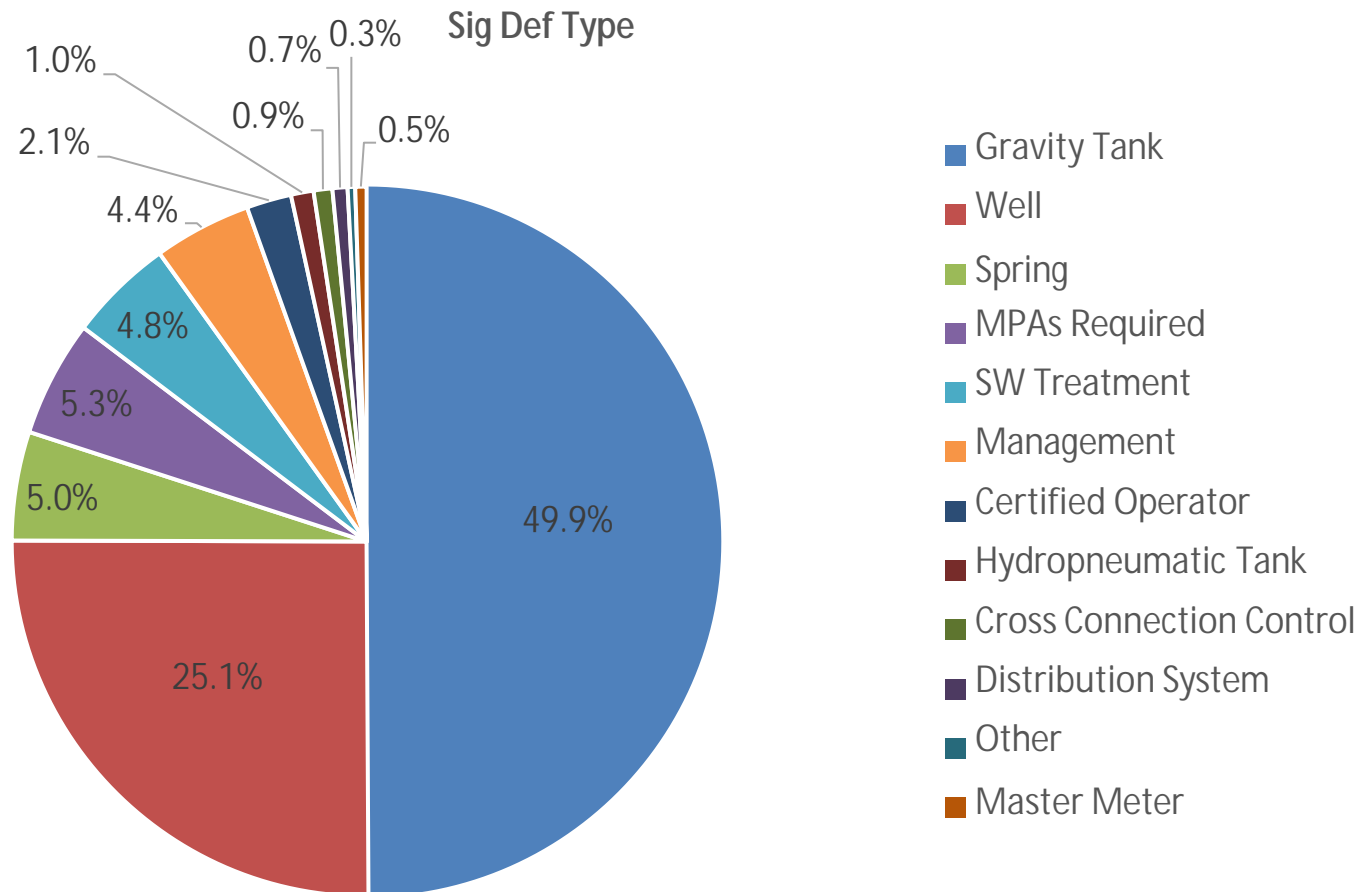
Hatch does not have a gasket.





EPA Region 8 Significant Deficiencies October 2020

Open significant deficiencies at R8 systems by type:





SIGNIFICANT DEFICIENCIES

Significant deficiencies include, but are not limited to, defects in the design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system, that the EPA determines to be causing, or have the potential for causing, the introduction of contamination into the water delivered to consumers. Please note the instructions for responding to significant deficiencies in the attached cover letter. Failure to provide a response to the EPA could result in a violation.

1) Gravity Tank ID: ST04 – Reservoir Storage Tank (4 MG)

Overflow on finished water storage tank discharges at improper height*. (see photo #21)

Overflow must be piped to an elevation between 12 and 24 inches above the ground surface and discharge over a drainage inlet structure, splash plate, or engineered rip-rap.

2) Gravity Tank ID: ST04 – Reservoir Storage Tank (4 MG)

Overflow screening on finished water storage tank improvement needed*. (see photo #21)

Overflows must be fitted with non-corrodible #24-mesh screen, or a properly sealed flapper or duckbill valve to prevent contamination (including contamination carried by insects, rodents, and birds) from entering the water system. The screen should preferably be installed within the pipe at a location least susceptible to vandalism. When a flapper valve is used, a screen must be placed inside the valve (EPA Region 8 recommends non-corrodible #24-mesh screen be used). In cold climates, use of a flapper or duckbill valve should be considered to minimize air movement and hence ice formation in the tank. In cold climates, provisions should be considered to prevent the flapper or duckbill from freezing shut. Correction of this deficiency will require a permit to construct from the WYDEQ and will require an evaluation by an engineering firm to ensure that no damage will occur to the existing water tank as a result of the modifications to address the significant deficiencies.



How to prepare for a sanitary survey site visit:

If you are scheduled for a survey this year, you will receive an e-mail from EPA Region 8 (Lucien Gassie) with detailed instructions on how to prepare for your site visit. To avoid significant deficiencies, it is important that you read this entire e-mail and attachments and complete the associated actions!



How to prepare for a sanitary survey site visit:

- Key items to follow through on from this e-mail:
 - Review the 2020 sanitary survey form, with a focus on potential significant deficiencies (in red and identified with a @ symbol)
 - Assemble all of the requested documents:
 - Most recent tank cleaning and inspection reports, monitoring plans (DBP, LCR, RTCR, etc), chemical information, emergency response plans, etc.
 - Inspect your storage tanks and wells - especially rooftop components on ground level or elevated tanks and well sanitary seals.
 - Complete the "unknown integrity of storage tank" checklist based on this inspection.
 - Take photos of each applicable component (air vent screen, air vent height, hatch height, hatch gasket, etc). **Label these photos.**



EPA Region 8 Significant Deficiencies
October 2020

Complete and provide the “Unknown Integrity of Storage Tank Checklist” in addition to submitting pictures!!

EPA Region 8 Drinking Water Unit Unknown Integrity of Finished-Water Storage Tank Checklist			
Fill out one checklist per storage tank & submit labeled photos of each tank component the sanitary surveyor was unable to access and completely evaluate with this form			
PWS Name: <input type="text"/>	PWS ID: <input type="text"/>		
Tank Name: <input type="text"/>	Tank ID: <input type="text"/>		
Proposed Inspection Date: <input type="text"/>	Actual Inspection Date: <input type="text"/>		
Name of Person Filling Out Form: <input type="text"/>	Title of Person Filling Out Form: <input type="text"/>		
I certify that this information is complete and accurate:		Date:	<input type="text"/>

Overall Tank Condition				
	Significant Deficiency	Required Correction	Proposed Completion Date	Actual Completion Date
<input type="checkbox"/> Yes <input type="checkbox"/> No	Does the tank appear to be structurally sound?	If no, what repairs are suggested by the tank inspector? <input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Are there any unprotected openings in the tank (breaches, leaks, daylight coming through tank in spots, etc)	If yes, indicate type of breach and how it should be repaired. <input type="text"/>	<input type="text"/>	<input type="text"/>

Access Hatch				
	Significant Deficiency	Required Correction	Proposed Completion Date	Actual Completion Date
	Is the hatch raised at least 4" above			



Example photo: Downturned Air Vent Height:

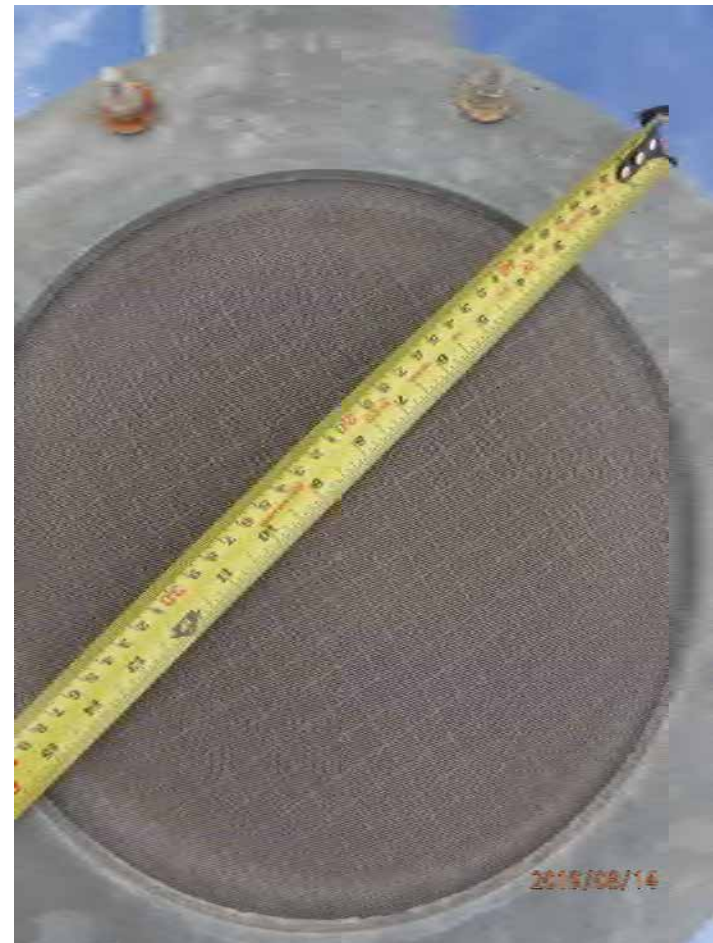
- Tape measure demonstrates distance from tank roof to vent opening is at least 24 inches.





Example photo: Downturned Air Vent Screen:

- Tape measure demonstrates that screening is #24 mesh.
- Photo is adequate, but could be improved by zooming in closer to the mesh screen.





Example photo: Non-downturned Air Vent Height:

- Tape measure demonstrates that the air vent opening is at least 8 inches above the tank roof.
- Photo demonstrates that the air vent cover comes down to the bottom of the vent opening.





Example photo: Non-downturned air vent screen:

- Tape measure helps demonstrate that screening is #24 mesh.





Example photo: Non-downturned air vent screen:

- Dime helps demonstrate that air vent screening is #24 mesh.





EPA Region 8 Significant Deficiencies October 2020

Example photo: Ground level tank hatch:

- Tape measure demonstrates that hatch height is at least 24 inches above the tank roof.





Example photo: Ground level tank hatch:

- Photo shows the presence of an adequate gasket around the entire perimeter of the hatch.
- Photo demonstrates that the hatch lid is a “shoe-box” type design (with a minimum 2” overhang)





Example photo: Elevated tank hatch:

- Tape measure demonstrates that the hatch is >4 inches above the roof.
- Photo demonstrates that the hatch lid is a "shoe-box" type design with a minimum 2" overhang.





Example photo: Elevated tank hatch:

- Photo demonstrates an intact gasket.
- Given the conditions (high in the air!) the operator was not required to provide additional photos showing that the gasket went around the full perimeter of the lid.





Example photo: Tank overflow discharge:

- Tape measure demonstrates discharge height between 12" and 24".
- Photo depicts a concrete drainage structure at the discharge of the overflow.





Example photo: Tank overflow discharge:

- Tape measure (roughly) demonstrates that screening is #24 mesh.
- A photo closer to the screening would improve the quality of this photo (similar to the example air vent screening photo above).





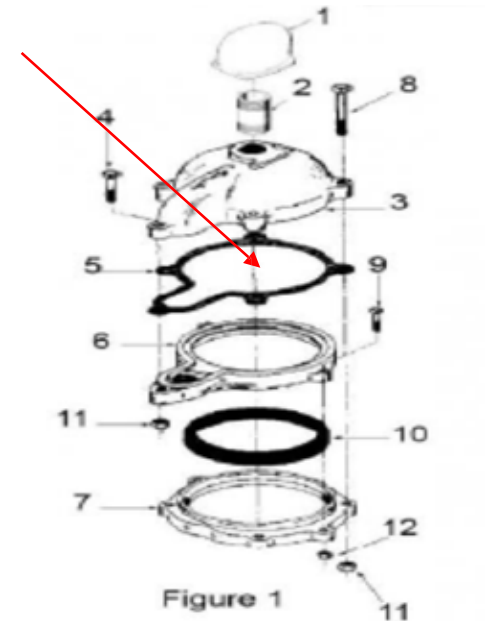
Example photo: Tank overflow discharge:

- Flap valve lifted to show presence of screening behind the valve (required).
- This photo is adequate, but a zoomed in photo that shows the internal screen more clearly would have improved the quality (the resolution is good enough that zooming in on the photo file makes the screen viewable).



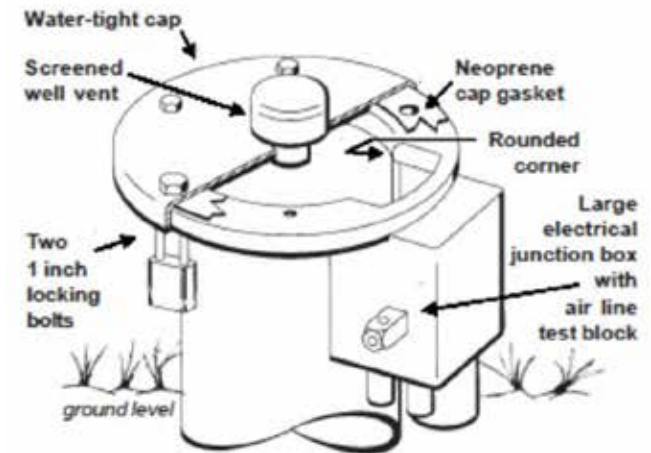


Scenario #1. The well cap is designed with an internal sanitary seal and the sanitary seal (5) *is visible* between the cap (3) and the retainer ring (6). Take a picture of the visible seal. This situation is not a deficiency if the cap is tightly bolted.





EPA Region 8 Significant Deficiencies October 2020



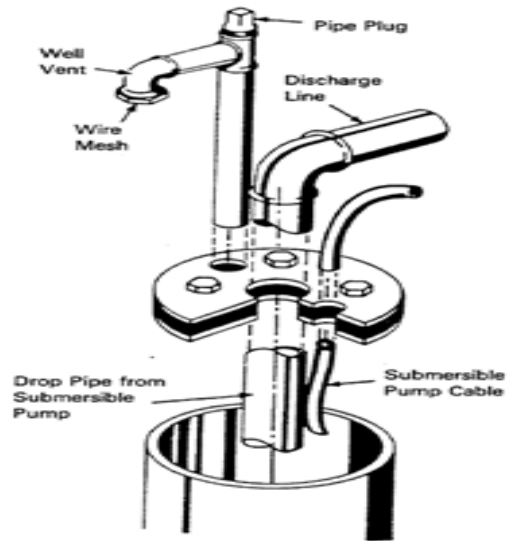
Scenario #2. The well head is designed for a sanitary seal but it is not visible between the upper and lower pieces of the cap. Remove the cap and take pictures of the internal neoprene gasket.



EPA Region 8 Significant Deficiencies October 2020



Scenario #3. Well caps is not designed to be bolted down with a compression seal, elastic gasket or O-ring. **This type of cap usually does not provide a sanitary seal and may be a deficiency.**



Scenario #4. "Split Plate" and "Non-Split Plate Compression Seal Well Cap" type sanitary seals or well caps with piping exiting the top of the cap. Do not open split plate type sanitary seals or wells with piping exiting the top of the well cap. This will not be an automatic deficiency unless there are other concerns (cap is loose, corroded, missing bolts, etc.).





What happens after the sanitary survey site visit:

- The contractor (or EPA staff) that conducted the site visit prepares the draft sanitary survey documents (report, photos, marked up schematics, etc) and submits them to the EPA for review. This generally takes 2 to 3 months.
- The draft sanitary survey documents are reviewed by EPA Region 8 technical reviewers for completeness and consistency. One of the technical reviewers may reach out to you with questions during this process. This review is very thorough and there is generally a backlog of reports. This review generally takes 6 to 9 months.
- A final sanitary survey report is mailed to you with final significant deficiency determinations identified in both the cover letter and the body of the report.
- You are assigned an initial **6 month** timeframe for correcting these significant deficiencies and providing documentation to the EPA or responding with an extension request **in writing**.



You must respond to the EPA in writing within 6 months of receiving the final report with one of the following responses. Failure to do so will result in a notice of violation!



Rule Manager Contact Info

Ground Water Rule Manager

Significant Deficiencies

Matthew Langenfeld

303.312.6284

langenfeld.matthew@epa.gov