



Town of Star Valley Ranch

171 Vista Drive, #7007

Star Valley Ranch, WY 83127

Water System Corrective Action Plan Proposal

[in Lieu of System Chlorination]

14 November 2023

Submitted and Approved by:


Kathleen Buyers, Mayor Star Valley Ranch

1. Introduction

This Town of Star Valley Ranch (TSVR) Water System Corrective Action Plan Proposal is prepared in response to the Environmental Protection Agency (EPA) October 2023 amendment of an existing Level 2 Assessment originally received by TSVR in September 2022. The Level 2 Assessment amendment would require initiation of water system chlorination by TSVR. The contents of this proposal provide recommended courses of action (in lieu of system chlorination) to address the causalities of repeat Total Coliform (TC) positive (TC+) samples observed in TSVR's water system since 2016.

2. Background

In 2016, in compliance with the Revised Total Coliform Rule (RTCR), TSVR developed and implemented a water system sample siting plan. As a small public water system, the TSVR conducts monthly water system monitoring. In accordance with the sample siting plan, TSVR water operators collect two (2) routine samples on the first Monday of every month. Those samples are then sent to a state-certified lab where they are evaluated for the presence of TC.

From August 2016 to the present date, a total of 29 TC+ routine and repeat samples have indicated for the TSVR water system. These TC+ samples have also resulted in three (3) Level 2 Assessments in the last three (3) years. Figure 1 below shows the number and annual occurrences of TC+ samples since 2010.

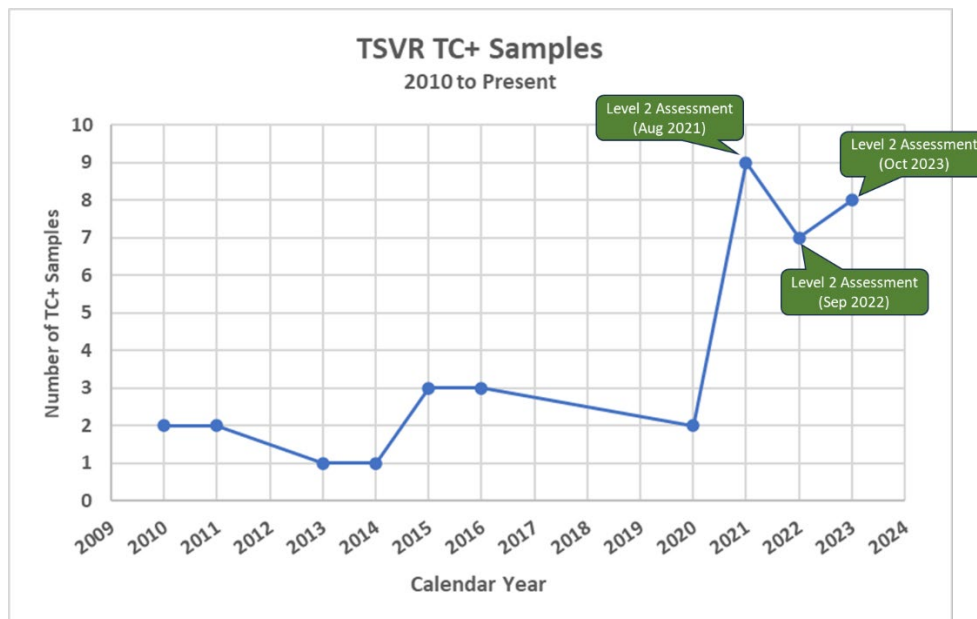


Figure 1. TSVR TC+ Samples 2010 through Present

While the root cause of the uptick in TC+ samples since 2021 has not yet been ascertained, the EPA's October 2023 amendment of the September 2022 Level 2 Assessment supposes a linkage to the Green Canyon Water Storage Tank sanitary defect. The sanitary defect

identified seepage of the tank with a required corrective action for repair. Bids solicited by TSVR in 2023 to conduct this water storage tank repair came in significantly higher than budgeted. Therefore, the work was not completed in the fall of 2023 as originally planned. Following the TC+ samples in October 2023 (triggering a possible new Level 2 Assessment), the EPA opted instead to issue the amendment to the existing September 2022 Level 2 Assessment requiring TSVR to initiate water system chlorination.

3. Proposed Corrective Actions

A teleconference was held on November 9, 2023, between TSVR and representatives from EPA Region 8 to discuss the October 2023 Level 2 Assessment Amendment. As the root cause(s) of the TC+ samples are currently undetermined, the TSVR requested the opportunity to conduct alternative corrective actions before moving directly into water system chlorination. The EPA agreed to consider this option. The following paragraphs detail TSVR's proposed alternative corrective actions and the schedule for implementing those actions.

3.1. Sample and Test Green Canyon Water Storage Tank

- Task 3.1.1: Collect water samples from Green Canyon Water Storage Tank utilizing certified laboratory sample bottles. Obtain TC testing through the Lincoln County Water Quality Laboratory in Afton, WY. Concurrently, conduct in-house testing at TSVR of water samples taken from certified laboratory sample bottles.
- Schedule: Within 1 week of EPA acceptance of TSVR Water System Corrective Action Plan Proposal [~11/15/2023 – 11/22/2023]

3.2. Conduct Additional Water Distribution System Testing

- Task 3.2.1: Collect water samples from TSVR water distribution system at random locations utilizing certified laboratory sample bottles. Obtain TC testing through the Lincoln County Water Quality Laboratory in Afton, WY. Concurrently, conduct in-house testing at TSVR of water distribution system samples taken from certified laboratory sample bottles.
- Schedule: Within 1 week of EPA acceptance of TSVR Water System Corrective Action Plan Proposal [~11/15/2023 – 11/22/2023]

3.3. Shock Chlorinate the Water System

- Task 3.3.1: Pending the results of Tasks 3.1.1 and 3.2.1 and following review of those same results with the EPA Region 8 Revised Total Coliform Rule Manager, conduct shock chlorination of the entire water system if warranted with the assistance of Midwest Assistance Program, Inc. (MAP) representative.
- Schedule: Within 3 weeks of EPA acceptance of TSVR Water System Corrective Action Plan Proposal as may be required based on the outcome and review of test results identified in Tasks 3.1.1 and 3.2.1 [~11/15/2023 – 12/6/2023]

- Task 3.3.2: Collect follow-up TC samples and testing in December 2023 and January 2024 utilizing certified laboratory sample bottles to determine effectiveness of shock chlorination. Obtain TC testing through the Lincoln County Water Quality Laboratory in Afton, WY. Concurrently, conduct in-house testing at TSVR of water samples taken from certified laboratory sample bottles.
- Schedule: Within 8 weeks of EPA acceptance of TSVR Water System Corrective Action Plan Proposal as may be required if shock chlorination has been implemented [~11/15/2023 – 1/10/2024]

3.4. Conduct Audit of Water Sampling Procedures, Conduct Sampler Training

- Task 3.4.1: Conduct complete review/audit of all water sampling processes and procedures to ensure compliance with American Public Health Association *Standard Methods for the Examination of Water and Wastewater* as well as current EPA sampling and monitoring guidance. Leverage MAP representative expertise in audit process.
- Task 3.4.2: Conduct training for water operators to ensure compliance with best-practice sampling procedures. Training will reinforce proper sampling and sample handling procedures to obtain uncontaminated samples. Leverage MAP representative expertise in training process.
- Schedule: 11/15/2023 – 1/31/2024

3.5. Conduct Audit of Water System Operation, Maintenance & Management Functions

- Task 3.5.1: Review/audit water system standing operating procedures (SOPs), comprehensive monitoring plans, routine inspections, and emergency response plans. Leverage MAP representative expertise in audit process.
- Task 3.5.2: Ensure SOPs are in place/up-to-date for each operation and maintenance function that affects our system's water quality (e.g., flushing programs, storage facility inspections, etc.).
- Task 3.5.3: Ensure SOPs are in place/up-to-date for all distribution system maintenance operations (e.g., appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks, and continual maintenance of positive water pressure in all parts of the distribution system).
- Schedule: 11/15/2023 – 3/31/2024

3.6. Complete Installation of Dedicated Sample Taps

- Task 3.6.1: Install dedicated sample taps. Construction of dedicated sample taps has already been completed [see Figure 2 on next page]. Next steps are to identify specific sample tap locations and conduct installation. TSVR intends to plumb each dedicated sampling station directly into a distribution system line adjacent to a customer's meter pit. Leverage MAP representative expertise in site selection process.

- Task 3.6.2: Update and resubmit sample site plan upon completion of dedicated sampling tap installation.
- Schedule: Completion by 1/30/2024

3.7. Town Engineer to Conduct Analysis of Long-Term Water System Storage Needs

- Task 3.7.1: TSVR Town Engineer to analyze whether the Water System would benefit from replacement of the existing Green Canyon Water Storage Tank instead of lining the existing tank. The Town Engineer will further assess placement of a new Green Canyon Water Storage Tank to sustain the water system for the long-term or whether an additional well drilled in the north-end of TSVR would be a substantial benefit to the long-term overall health of the water system.
- Schedule: 1/1/2024 – 3/1/ 2024



Figure 2. TSVR Water Sample Tap fixture.

3.8. Accelerate Re-Bid of Green Canyon Water Storage Tank Repair Work

- Task 3.8.1: Pending outcome of Task 3.7.1, re-bid the Green Canyon Water Storage Tank lining replacement in spring 2024 prior to the next TSVR budget cycle, utilizing water system reserve funds. A budget amendment and Town Council approval are required.
- Schedule: 3/1/2024 – 5/31/ 2024

4. Summary/Conclusion

The Town of Star Valley Ranch is committed to maintaining the health and safety of our community; we consider this to be our #1 priority. Although the underlying cause of our recent TC+ samples is currently unidentified, we intend to implement, pursue, and maintain the actions identified in Section 3 of this proposal as a matter of public water system best practices.

In the event this Water System Correction Action Plan Proposal is deemed insufficient, TSVR will require assistance from the EPA or their designated MAP representative prior to initiating system-wide water chlorination. Following completion of ongoing maintenance actions and upon receipt of the requested technical expertise, TSVR anticipates readiness to begin water system chlorination by December 15, 2023.