



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

Nashville Environmental Field Office
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December 10, 2019

Mr. Julian Sampson, President
Laguado Utility District
7880 Coles Ferry Pike
Lebanon, TN 37087

RE: Sanitary Survey (Community Water System)

Laguado Utility District
PWSID #0000394
Wilson County

Dear Mr. Sampson:

On November 19 and 21, 2019, I visited the Laguado Utility District (LUD) and performed a Sanitary Survey. The survey consisted of a records review to document the operational performance of the system and an on-site inspection of the water treatment plant and distribution system. The survey covered the time period from April 2018, through November 2019. The Division of Water Resources (Division) would like to thank LUD personnel for their courtesy and willingness to work with the Division. In accordance with the Sanitary Survey Manual the LUD earned 597 points out of a possible 599 points for a numerical score of **ninety-nine percent (99%)**. This rating retains the LUD in the State's "**Approved**" category.

The following deficiencies, comments, and/or recommendations as outlined in the Sanitary Survey Rating Form were identified during the survey and should be addressed as applicable.

1. Section 4: Treatment

Subsection H. Turbidimeters / Calibration

During the review of turbidimeters calibration records, Division staff noted that the turbidimeters were calibrated more than 90 days apart during the third quarter of 2019 (turbidimeters calibrated on 6/27/2019 and then 10/16/2019). All turbidimeters used for compliance purposes must be calibrated no less often than every 90 days and pursuant to manufacturer recommendations. Two (2) points were deducted from the scoring calculation for this issue.

Please provide a written response, within forty-five (45) days of receipt of this letter, outlining what will be done or has been done to correct the above mentioned issues. Send the response letter to the address at the top of this letter, to my attention.

General Observations, Comments, and Recommendations

1. Since the last Sanitary Survey, the population served by LUD has increased to 12,277 individuals (4,581 connections). This increase is not significant enough to increase the number of bacteriological samples collected each month. Therefore, the LUD will continue to collect and analyze **ten (10)** bacteriological samples each month.
2. During the on-site inspection of the system's water storage tanks, no major problems were observed and all tank sites were well maintained.
3. During the survey, Division staff observed Mr. Travis Owens correctly perform analysis for the following parameters: turbidity, free chlorine residual, temperature, pH, alkalinity, iron, manganese, CO₂ and orthophosphate. Therefore, state approval for daily analysis of the above listed parameters is hereby granted to LUD. This approval is effective until the next sanitary survey as long as Mr. Owens is employed by the water system and is contingent on proper maintenance of equipment and calibration standards.
4. Division staff observed Mr. Travis Owens correctly calibrate the 1720E in-line turbidimeter and the 2100N bench-top turbidimeter. Therefore, state approval is hereby granted to LUD for calibration of these instruments. This approval is effective until the next sanitary survey as long as Mr. Owens is employed by the water system and is contingent on proper maintenance of equipment and calibration standards.
5. The updated drinking water monitoring program for the system in accordance with Rule 0400-45-01-0.17(3) is enclosed.

I would like to thank the LUD personnel for their assistance and courtesy. If you have any questions or need additional information, please contact me at (615) 687-7061 or by email at mehdi.sadri@tn.gov

Sincerely,

A handwritten signature in cursive script that reads "mehdi sadri".

Mehdi Sadri
Environmental Protection Specialist
Division of Water Resources

Enclosures

e-copy: Mr. Joey Hardin, General Manager, jhardin@laguardoutility.com
e-File

DRINKING WATER MONITORING PROGRAM
LaGuardo Utility District
Water Treatment Plant, Distribution 1
PWSID# 0000394, Wilson County
December 2019

The following Drinking Water Monitoring Program has been developed in accordance with Division Rules 0400-45-01-.07 and 0400-45-01-.17(3). All results must be reported on the Monthly Operations Report. Please place this monitoring program in an easily accessible location for water system personnel to review.

I. Raw Water

A. Collect a representative sample each day the plant is in operation and analyze for the following:

1. Temperature
2. Turbidity
3. Alkalinity (Total)
4. Hardness
5. CO₂
6. pH
7. Iron
8. Manganese
9. Jar Test (as needed)

II. Finished Water

A. The following requirements must be continuously monitored after filtration each day the plant is in operation:

1. Turbidity – Continuously monitor and report highest level in each four (4) hour block from all available data.
2. Chlorine Residual (free) – continuously, reporting lowest recorded Cl₂ residual from all available data.

B. Collect a representative sample after filtration each day the plant is in operation and analyze for the following:

1. Alkalinity (total)
2. Hardness
3. CO₂
4. pH (report highest daily measurement)
5. Iron
6. Manganese
7. Orthophosphate

- C. Turbidimeters are to be checked for adequate flow (250 mL/min to 750 mL/min) a minimum of twice a month.

III. Membrane Monitoring

- A. Each day the plant is in operation do the following:
 - 1. (Indirect Integrity Testing) Turbidity – Continuously monitor, and record, for EACH membrane unit. *Maintain data, but does not need to be reported on MOR.*
 - 2. Direct Filter Integrity Tests must be performed, and reported, for each membrane unit, each day the system is producing water.

IV. Distribution System

- A. Collect a representative sample five (5) days a week from dead-end or low usage lines and analyze for the following:
 - 1. Chlorine Residual (Free) – residual along with sample site must be reported on MOR
 - 2. Iron
 - 3. Manganese
 - 4. Orthophosphate
- B. Bacteriological – **ten (10) samples per month** are to be collected and analyzed by a State certified laboratory. For more information see Bacteriological Site-Sampling Plan.

Sanitary Survey Rating

PWSID: TN0000394

Water System Name: Laguardo U D

Survey Date: 21-Nov-19

System Category (Points): 421
488
599

421 - Consecutive Systems/Distribution Only
488 - Treatment Systems/Wholesalers
599 - Both Treatment and Distribution

1. System Management and Operation (94)

	Requirement	Points Range	Deduction	Comments
A.	Record Keeping 0400-45-01-.20	(0)	Narrative	ok
B.	Construction Projects 0400-45-01-.05, 0400-45-01-.17	(1-5)	0	ok
C.	Submission of Monthly Operations Reports 0400-45-01-.17	(0)	Narrative	ok
D.	Reporting Requirements 0400-45-01-18	(4-30)	0	ok
E.	Public Notification 0400-45-01-.19	(3-10)	0	ok
F.	Facility Maintenance Fee	(0)	Narrative	ok
G.	Enforcement - TCA §68-221-701 et seq	(4-10)	0	n/a
H.	Emergency Operations Plan 0400-45-01-.17	(3)	0	approved 2/7/17
Deficiency Subtotal			0	

2. Operator Compliance (23)

	Requirement	Points Range	Deduction	Comments
A.	Certified Operator – Plant and Distribution System 0400-45-01-.17(1) and 0400-49-01-04	(3-15)	0	Joey Hardin DS-2 Travis Owens WT-4
Deficiency Subtotal			0	

3. Source (25)

	Requirement	Points Range	Deduction	Comments
A.	Source Adequacy 0400-45-01-.02, .05, .16, .17(13) and .34(3)	(3-5)	0	ok, wells
B.	Intake 0400-45-01-.05, .17	(2)	0	ok
C.	Wellhead/Springbox Construction 0400-45-01-.05(12),16 and 17(3) and (16)	(2)	0	ok
D.	Source Protection Plans 0400-45-01-.34	(1-2)	0	ok
Deficiency Subtotal			0	

4. Treatment (153)

	Requirement	Points Range	Deduction	Comments
A.	Aerator 0400-45-01-.05, .17	(2)	0	n/a
B.	Chemicals / Chemical Feeders 0400-45-01-.05 (8) and .17,36	(2)	0	ok
C.	Mixing 0400-45-01-.02, .05, .17	(2)	0	ok
D.	Flocculation 0400-45-01-.02, .05, .17	(2)	0	ok
E.	Sedimentation 0400-45-01-.02, .05, .17	(2)	0	ok
F.	Filtration / Alternative Technology 0400-45-01-.17(12) and (27)	(2-30)	0	ok
G.	Re-Wash / Filter-to-Waste 0400-45-01-.17(35)	(2)	0	ok
H.	Turbidimeters / Calibration 0400-45-01-.05(11), .17, .31, .39	(2-4)	2	calibrated more than 90 days apart
I.	Disinfection/Calibration 0400-45-01-.02, .17, .31, .36	(2-30)	0	ok
J.	Disinfection Contact Time 0400-45-01-.02, .17,31	(2-4)	0	ok
K.	Master Meter 0400-45-01.17(2) and (3)	(1-2)	0	ok
L.	Maintenance of Equipment, Buildings and Grounds 0400-45-01-.02, .17(3), (17) and (19)	(1)	0	ok
M.	Laboratory Facilities 0400-45-01-.02, .14, .17(3)	(1-3)	0	ok
N.	Safety 0400-45-01-.02	(2)	0	ok
O.	Sludge Handling/Backwash Handling 0400-45-01-.05	(2)	0	ok
P.	Sanitary Conditions 0400-45-01-.17(17)	(2)	0	ok
Q.	Fluoridation Techniques 0400-45-01-.06, .12, .17	(2)	0	n/a
R.	Design Capacity 0400-45-01-.05(10)	(2-4)	0	4 MGD
S.	Filter Backwash Recycling 0400-45-01-.31(9)	(1)	0	n/a
Deficiency Subtotal			2	

5. Monitoring, Data Verification and Compliance (175)

	Requirement	Points Range	Deduction	Comments
A.	Laboratory-Process Monitoring (excluding Turbidity and Chlorine Residual) 0400-45-01-17(3)	(2-4)	0	ok
B.	Bacteriological Monitoring	(3-6)	0	ok
C.	Bacteriological Compliance 0400-45-01-.06	(4-7)	0	ok
D.	Turbidity Monitoring	(2-3)	0	ok
E.	Turbidity Compliance	(4-7)	0	ok
F.	Chlorine Residual Monitoring 0400-45-01-.17,31,36, 40	(2-3)	0	ok
G.	Primary Chemicals Monitoring	(2-3)	0	ok
H.	Primary Chemicals Compliance	(4)	0	ok
I.	Lead and Copper Monitoring 0400-45-01-.33	(2-3)	0	ok
J.	Lead and Copper Action Level 0400-45-01-.33	(3-5)	0	ok
K.	Disinfection/Disinfection By-Products and Precursors Monitoring 0400-45-01-.36, .37, .38	(2-3)	0	ok
L.	Disinfection/Disinfection By-Products and Precursors Compliance 0400-45-01-.06, .36	(2-30)	0	ok
M.	Secondary Chemicals 0400-45-01-.12	(2)	0	ok
N.	Secondary Chemicals Compliance 0400-45-01-.12	(3)	0	ok
O.	Cryptosporidium Monitoring 0400-45-01-.39	(0)	Narrative	ok
Deficiency Subtotal			0	

6. Finished Water Storage (25)

	Requirement	Points Range	Deduction	Comments
A.	Adequate Storage 0400-45-01-.17(14)	(3-15)	0	ok
B.	Inspection and Maintenance of Reservoirs, Tanks and Clearwell 0400-45-01-.17(16), (17), (33) and (34)	(1-10)	0	ok
Deficiency Subtotal			0	

7. Pumps, Pump Facilities and Controls (18)

	Requirement	Points Range	Deduction	Comments
A.	Pump Facilities 0400-45-01-.17(9) and (13)	(1-4)	0	ok
B	Maintenance of Pumping Equipment 0400-45 - 01-.17(13)	(1-3)	0	ok
Deficiency Subtotal			0	

8. Distribution System and Cross Connection Controls (86)

	Requirement	Points Range	Deduction	Comments
A.	Notification, Inspection, Disinfection and Sample Collection of New or Existing Facilities 0400-45-01-.17(8), (19)	(3-5)	0	ok
B	Flushing Program / Blow Offs 0400-45-01-.17(10) and (23)	(3-4)	0	ok
C.	Fire Hydrants 0400-45-01-.17(18)	(0)	Narrative	ok
D.	Adequate Pressure 0400-45-01-.17(9)	(5)	0	ok
E.	Map of Distribution System 0400-45-01-.17(15)	(3)	0	ok
F.	Approved Cross Connection Policy or Ordinance and Plan 0400-45-01-.17(6)	(4)	0	ok
G.	Working Cross Connection Program 0400- 45-01-.17(6)	(3-9)	0	ok
H.	Percent Estimated Water Loss(real loss/water produced)	(0)	Narrative	ok
Deficiency Subtotal			0	

Rating

95% - 100% Approved
 90% - 94% Provisionally Approved
 0% - 89 % Unsatisfactory

Total Deficiency Points	-2
Overall Rating	597
	99.67%

Inspectors Signature

mehdi seabra

Additional Comments/Explanation: