



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Johnson City Environmental Field Office
2305 Silverdale Road
Johnson City, Tennessee, 37601
Phone 423-854-5400 Statewide 1-888-891-8332 Fax 423-854-5401

April 29, 2019

Mr. Rob Cole, Manager
Bays Mountain Park
853 Bays Mountain Park Road
Kingsport, Tennessee 37660

RE: **Sanitary Survey of Non-Community Water System**
Bays Mountain Park
PWSID #0002618
Sullivan County

Dear Mr. Cole:

On March 22, 26, and April 5, 2019, Gay Irwin with the Division of Water Resources (DWR) visited Bays Mountain Park 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 and distribution system. The Survey covered the time period from April 2017 – March 2019. The Division would like to thank you for your courtesy, willingness to work with the Division, and timely responses to Division requests. In accordance with the Sanitary Survey Manual, Bays Mountain Park earned 599 points out of a possible 599 points for a numerical score of one hundred percent (**100%**). This rating retains Bays Mountain Park 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 1: System Management and Operation
• **Subsection A. Record Keeping:**

Regulation 0400-45-01-20(1)(a) requires in part: "Records of bacteriological analysis made pursuant to these rules shall be kept for not less than five (5) years.

Results of bacteriological results were not available. The results are reportedly retained at the Kingsport Water Department where the analysis is performed. Copies of all bacteriological results representing the operation of this public water

system should immediately begin to be retained on site with the drinking water records.

General Observations, Comments, and Other Recommendations

1. The system has an approved Wellhead Protection Plan that was most recently updated in June 2016, per Regulation 0400-45-01-.34(1)(g)(3)(i). The Wellhead Protection Plan is due for a renewal (including new photographs) by June 28, 2019.
2. System personnel are currently measuring chlorine residuals daily, Monday through Friday, with the results documented in a logbook. As part of the Sanitary Survey, monitoring was conducted for iron, pH, alkalinity, hardness, chlorine, and turbidity. The results were within the expected range for this water system.
3. The system is required to conduct nitrate monitoring annually. The most recent sample was collected on December 12, 2018, with an acceptable result of .0360 mg/L. The next sample is required to be collected before December 31, 2019.
4. The Enforcement Targeting Tool (ETT) tracks violations incurred by public water systems and assigns a score for each system based on the number and types of violations. Violations remain on the ETT list for a period of five (5) years and the system's total score determines enforcement potential. Currently, the score assigned to Bays Mountain Park is ten (10).

Again, I would like to thank Bays Mountain Park personnel for their assistance and courtesy. If you have any questions or need additional information, please contact me at the Johnson City Environmental Field Office at (423) 854-5467.

Sincerely,



Gay Irwin
Environmental Consultant II, MPA
Division of Water Resources
Johnson City Environmental Field Office
Phone: (423) 854-5467
gay.irwin@tn.gov

cc: Ms. Freda Crutchfield, DWR/NCO (via email, Freda.Crutchfield@tn.gov)
DWR/JCEFO File #0002618
WaterLog database

GI/190219119

Sanitary Survey Rating

PWSID: Water System Name:

Survey Date: System Category (Points):

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	Bacteriological results were unavailable. See Survey.
B. Construction Projects 0400-45-01-.05, 0400-45-01-.17	(1-5)	<input type="text" value="0"/>	N/A
C. Submission of Monthly Operations Reports 0400-45-01-.17	(0)	Narrative	N/A
D. Reporting Requirements 0400-45-01-.18	(4-30)	<input type="text" value="0"/>	OK
E. Public Notification 0400-45-01-.19	(3-10)	<input type="text" value="0"/>	N/A
F. Facility Maintenance Fee	(0)	Narrative	OK
G. Enforcement – TCA §68-221-701 et seq.	(4-10)	<input type="text" value="0"/>	N/A
H. Emergency Operations Plan 0400-45-01-.17	(3)	<input type="text" value="0"/>	N/A
	Deficiency Subtotal	<input type="text" value="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)	<input type="text" value="0"/>	Bob Culler & Krystal Haney - SWS
	Deficiency Subtotal	<input type="text" value="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)	<input type="text" value="0"/>	Good
B. Intake 0400-45-01-.05, .17	(2)	<input type="text" value="0"/>	N/A
C. Wellhead/Springbox Construction 0400-45-01-.05(12), .16 and .17(3) and (16)	(2)	<input type="text" value="0"/>	Good
D. Source Protection Plans 0400-45-01-.34	(1-2)	<input type="text" value="0"/>	Update due June 2019
	Deficiency Subtotal	<input type="text" value="0"/>	

4. Treatment (153)

<u>Requirement</u>	<u>Points Range</u>	<u>Deduction</u>	<u>Comments</u>
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	N/A
C. Mixing 0400-45-01-.02, .05, .17	(2)	0	N/A
D. Flocculation 0400-45-01-.02, .05, .17	(2)	0	N/A
E. Sedimentation 0400-45-01-.02, .05, .17	(2)	0	N/A
F. Filtration/Alternative Technology 0400-45-01-.17(12) and (27)	(2-30)	0	N/A
G. Re-wash/Filter-to-waste 0400-45-01-.17 (35)	(2)	0	N/A
H. Turbidimeters/Calibration 0400-45-01-.05 (11).17, .31, .39	(2-4)	0	N/A
I. Disinfection 0400-45-01-.02, .17, .31, .36	(2-30)	0	Chlorine-liquid bleach
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	N/A
L. Maintenance of Equipment, Buildings and Grounds 0400-45-01-.02, .17(3), (17) and (19)	(1)	0	N/A
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 0400-45-1-.05	(2)	0	N/A
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	N/A
S. Filter Backwash Recycling 0400-45-01-.31 (9)	(1)	0	N/A
	Deficiency Subtotal	0	

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)	(5)	0	N/A
B. Bacteriological Monitoring	(2-6)	0	OK
C. Bacteriological Compliance 0400-45-01-.06	(4-7)	0	OK
D. Turbidity Monitoring	(2-3)	0	N/A
E. Turbidity Compliance	(4-7)	0	N/A
F. Chlorine Residual Monitoring 0400-45-01-.17, .31, .36	(2-3)	0	Required 5 days per week. Must be at least 0.2 mg/L in system.
G. Primary Chemicals Monitoring	(2-3)	0	Nitrate due by 12/31/19.
H. Primary Chemicals Compliance	(4)	0	OK
I. Lead and Copper Monitoring 0400-45-01-.33	(2-3)	0	N/A
J. Lead and Copper Action Level 0400-45-01-.33	(3-5)	0	N/A
K. Disinfection/Disinfection By-Products and Precursors Monitoring 0400-45-01-.36, .37, .38	(2-3)	0	N/A
L. Disinfection/Disinfection By-Products and Precursors Compliance 0400-45-01-.06, .36	(2-30)	0	N/A
M. Secondary Chemicals 0400-45-01-.12	(2)	0	N/A
N. Secondary Chemicals Compliance 0400-45-01-.12	(3)	0	N/A
O. Cryptosporidium Monitoring 0400-45-01-.39	(0)	Narrative	N/A
	Deficiency Subtotal	0	

6. Finished Water Storage (25)

Requirement	Points Range	Deduction	Comments
A. Adequate Storage 0400-45-01-.17 (14)	(2-4)	0	OK
B. Inspection and Maintenance of Reservoirs, Tanks and Clearwell 0400-45-01-.17 (16), (17), (33) and (34)	(1-10)	0	Good - Inspected May 2018
	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	N/A
B. Maintenance of Pumping Equipment 0400-45-01-.17(13)	(1-3)	0	N/A
	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) and (19)	(3-5)	0	N/A
B. Flushing Program/Blow Offs 0400-45-01-.17(10) and (23)	(3-4)	0	N/A
C. Fire Hydrants 0400-45-01-.17 (18)	(0)	Narrative	N/A
D. Adequate Pressure 0400-45-01-.17 (9)	(5)	0	N/A
E. Map of Distribution System 0400-45-01-.17 (15)	(3)	0	N/A
F. Approved Cross Connection Policy or Ordinance and Plan 0400-45-01-.17 (6)	(4)	0	CC Statement signed 3/26/19 by Ranger Culler.
G. Working Cross Connection Program 0400-45-01-.17(6)	(3-9)	0	Yes
H. Unaccounted Water Loss	(0)	Narrative	N/A
	Deficiency Subtotal	0	

Total Deficiency Points: 0

Points Available: 599

Overall Rating: 100

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

Inspector: Gay Irwin *Gay Irwin*

Additional Comments/Explanations: