

# Bacteriological Water Sample Collection Requirements



## Safe Drinking Water Program



[www.dhh.la.gov/SafeDrinkingWater](http://www.dhh.la.gov/SafeDrinkingWater)

# Effective Aug 1, 2012

- All Public Water Systems will be solely responsible for collecting, transporting and managing their own Bacteriological Water Samples
- Systems must collect and transport the Bacteriological Samples to the designated Sample Depot per LDHH guidelines
- Sample bottles and forms will be provided by LDHH



# Total Coliform Rule

Promulgated June 29, 1989

Effective December 31, 1990

- Defines Community, Non-community PWS
- Provides Routine Monitoring Schedule based on Population of PWS
- Maximum Contaminant Level (MCL) for presence or absence of coliform bacteria



# Ground Water Rule

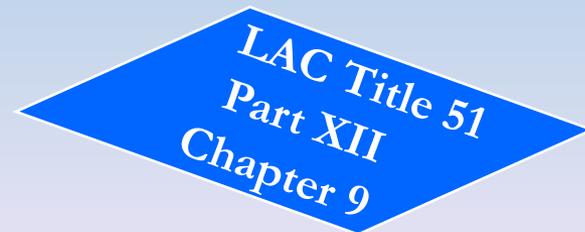
Promulgated January 8, 2007

Effective December 1, 2009

- Provide 4-log continuous disinfection  
or
- Conduct Triggered Source Monitoring at all active GW sources as follow-up to all Routine TC+

# Louisiana Administrative Code

- Title 51 – Public Health Sanitary Code
  - Part XII - Water Supplies
  - Chapter 9. Louisiana Total Coliform Rule
    - Federal Regulations Adopted by Reference
- Pertains to all Public Water Systems
  - All PWS are required to have copy onsite





# Public Notification Rule

Promulgated May 4, 2000  
LA Adopted Primacy -

- Requires all PWS to notify all consumers any time a violation of National Primary Drinking Water Regulations occurs
  - MCL Exceedance
  - Failure to Monitor
- Timeframe of PN and Specific Activities required depends on Tier Level of Violation



# Total Coliform Rule

- Coliform Routine Compliance Monitoring
  - Each public water supply (PWS) must be monitored in accordance with a written sampling plan prepared by the PWS personnel
  - The water supply must provide suitable taps which draws water directly from the mains or the service lines.
  - Monitoring Schedule is determined by the total population served (Table 1)

# Community Systems – Routine Monitoring

## Table 1 from LAC Part XII

C. Community systems must be routinely monitored in accordance with Table 1.

Table 1			
Population Served	Minimum Number of Routine Samples per Month	Population Served	Minimum Number of Routine Samples per Month
25 to 1,000	1	59,001 to 70,000	70
1,001 to 2,500	2	70,001 to 83,000	80
2,501 to 3,300	3	83,001 to 96,000	90
3,301 to 4,100	4	96,001 to 130,000	100
4,101 to 4,900	5	130,001 to 220,000	120
4,901 to 5,800	6	220,001 to 320,000	150
5,801 to 6,700	7	320,001 to 450,000	180
6,701 to 7,600	8	450,001 to 600,000	210
7,601 to 8,500	9	600,001 to 780,000	240
8,501 to 12,900	10	780,001 to 970,000	270
12,901 to 17,200	15	970,001 to 1,230,000	300
17,201 to 21,500	20	1,230,001 to 1,520,000	330
21,501 to 25,000	25	1,520,001 to 1,850,000	360
25,001 to 33,000	30	1,850,001 to 2,270,000	390
33,001 to 41,000	40	2,270,001 to 3,020,000	420
41,001 to 50,000	50	3,020,001 to 3,960,000	450
50,001 to 59,000	60	3,960,001 or more	480

# Split Routine Samples Monthly Monitoring Frequency

If the system supplies water to 4901 or more people (not service connections), EPA TCR mandates that you divide the required number of Routine samples over more than one day per month.

Population = 20,000 – Collect 10 samples twice a month for total 20 samples/Month

# Non-Community Systems <1,001 Reduced Routine Monitoring

- Daily Population Served <1,001 people
  - One sample per Quarter (every 3 months)
    - Ground Water Systems Only
    - When Routine TC+ occurs – revert to Monthly sampling until samples clear
    - Collect Repeats/Triggered Source and Temporary Routines on same schedule as C
- Daily Population Served >1,000
  - Same as Community Systems - Table 1
    - Monthly

# Mandatory Disinfection §355

- A. Routine, continuous disinfection is required of all public water systems.
- B. Water being delivered to the distribution system shall:
  - 1. For Chloramines, contain at least a 0.5 mg/L residual measured as total chlorine;
  - 2. For Free Chlorine, contain a minimum residual measured as free chlorine in accordance with following table:

pH Value	Free Chlorine Residual
up to 7.0	0.5 mg/l
7.0 to 8.0	0.6 mg/l
8.0 to 9.0	0.8 mg/l
over 9.0	1.0 mg/l

# Min Disinfection Residuals §357

- A. Disinfection equipment shall be operated to maintain disinfection residuals in all storage tanks and all points in the distribution system at all times per the following:
  1. For Free Chlorine, contain at least a 0.5 mg/L residual measured as free chlorine.
  2. For Chloramines, contain at least a 0.5 mg/L residual measured as total chlorine.

# Chlorine Residual Readings

- Record Minimum disinfectant residual
- On Lab 8 form at time of bacti collection
  - Determine total or free chlorine residual at time of TC Sample Collection
  - Record reading on Lab 8 Form
  - Must maintain at least 0.5 mg/L in DS system
  - Cannot exceed 4.0 mg/L (DBP Rule)
  - Failure to record value on Lab 8 = Violation
    - No chlorine level recorded – D/DBPR and SWTR Federal Monitoring Violation and requires public notice
  - Chlorine level  $< 0.5$  mg/L = Chlorine Residual (CR) State Minimum Disinfection Violation

# Coliforms

- Coliforms are an indicator organism for the presence of bacteria.
- Coliforms are the primary measure of microbial quality in drinking water
- Presence or absence of coliforms
- MCLG is zero

# Coliform Analysis

- Louisiana uses the “Colilert” Method of analysis.
- All TC+ samples are also tested for *E. coli* (fecal indicator)
- Same sample analysis used for both TCR and GWR

# Compliance Samples

**ROUTINE** – Samples collected every sampling period

**REPEATS** – Samples collected if any Routines are positive

**TRIGGERED SOURCE**– Collected at all active Ground Water Sources at same time as Repeat Samples are collected

# Special Samples

**SPECIAL** sample type collected for INVESTIGATIVE purposes

Not used for compliance determination with TCR

- Do not count as Routine Samples
- Do not count against the PWS

New Sample Taps  
Broken Water Mains  
Loss of Pressure

Water Quality Concerns  
Hurricane Response  
Power Outages

# Positive Routine (TC+)

Positive for Total Coliform '1'

Negative for E. coli '0'

Collect REPEATS within 24 hours\*

\* Repeats and Triggered Source samples shall be collected on the next business day.

Labs will not except samples after 2pm on Thursday.

# Any Routine Positive for *E. coli*

- **Requires REPEAT Samples to be collected within 24 hours regardless of weekday/holiday!**
- **Repeat samples must be coordinated with District Office and Laboratory staff prior to collection**

# How Many Repeats?

For 1 Routine Positive Sample per Period  
Requires 4 Repeat Samples

For 2 or more Routine Positive Samples per  
Period  
Requires 3 Repeat Samples

# Where Are Repeat Samples Collected?



- ORIGINAL TAP
- UPSTREAM TAP \*
- DOWNSTREAM TAP \*
- ANOTHER POINT \*

\* Within 5 Service Connections of TC+ Original Tap **(5 houses/businesses)**

Temporary Routines are  
collected the month following  
a TC+ (for both C and NC PWS)

Collect at least 5 Routine Samples

Routine Monthly/Qtr 1 – 4 – Collect 5

Routine 5 or more Monthly - Collect  
normal Monthly Scheduled number

You are responsible for remembering  
to do this!

# Non Community Systems Quarterly Monitoring

Must collect repeats and TR on same schedule as Monthly systems

Continue collecting Monthly until all 5 Routines (TR) are negative for TC

Return to Qtr monitoring after cleared by Regional Engineering Staff



# Ground Water Rule

- Conduct Triggered Source Monitoring as follow-up to all Routine TC+
- Sanitary Surveys – Significant Deficiencies
  - Triggered Source Monitoring Plan (required)
  - Raw Water Sample Taps (Use 4 digit code)
  - Use Drinking Water Watch as reference

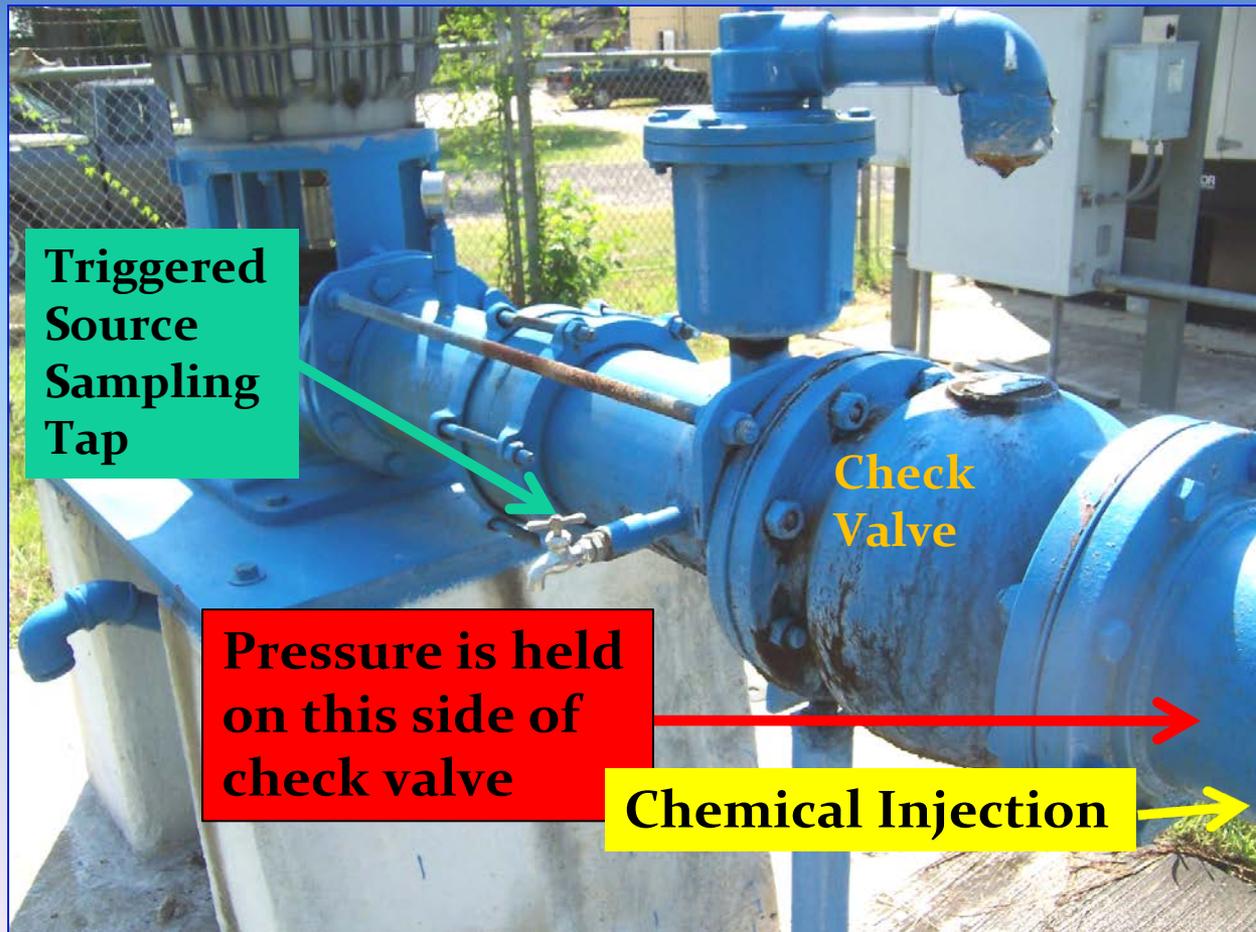
# Triggered Source Monitoring

- In response to all TC+ at same time as collect Repeats for TCR
- Collect at Raw Water Sample Tap
  - Prior to any treatment
- Same type sample as TCR Monthly/Qtr
  - Lab analyzes for TC and E. Coli
  - E.coli results are reported for GWR
    - TC+ for TG not an issue, only E. Coli

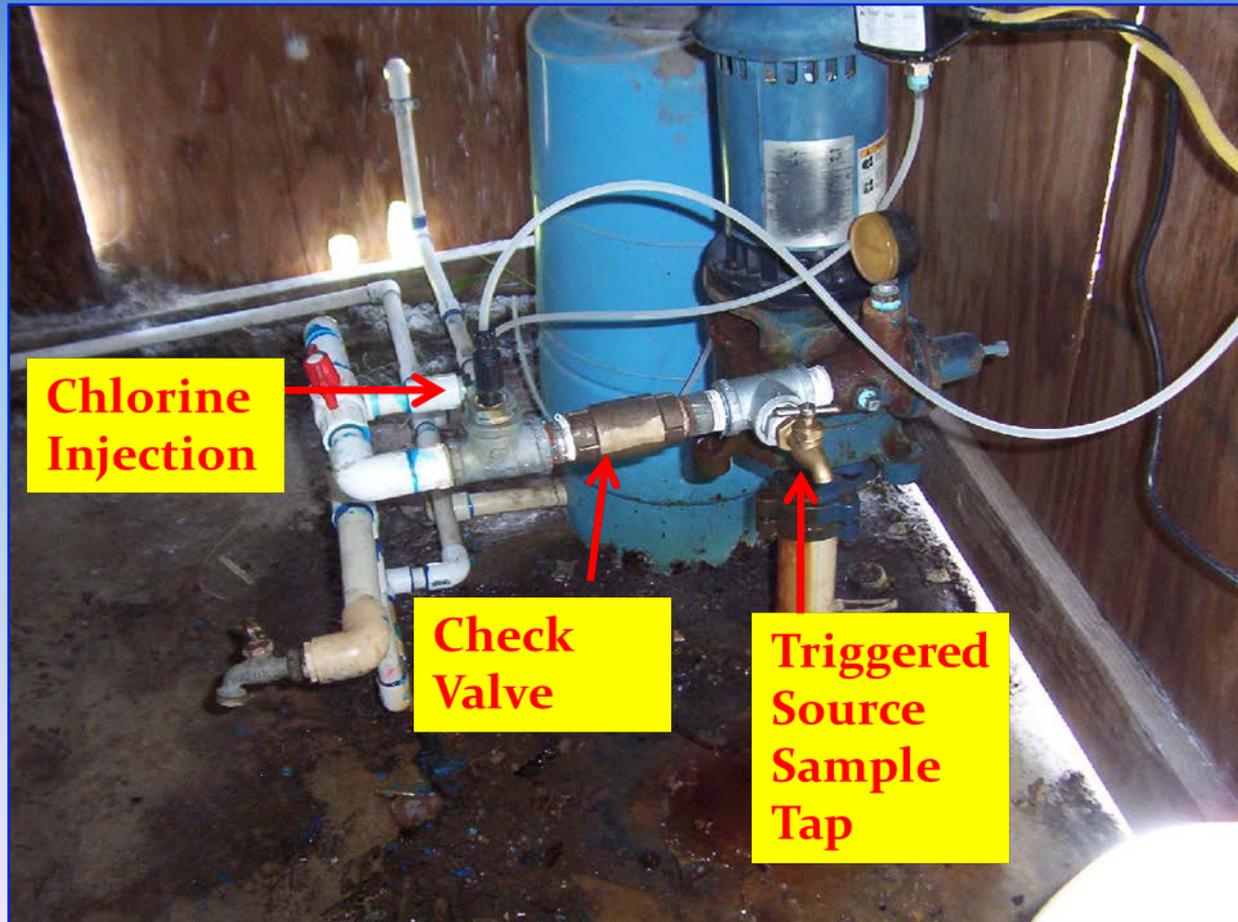
# How many Triggered Source samples to collect

- Collect 1 Triggered (TG) sample at each active source for each TC+ that occurred
  - *e.g.*, 2 TC+ with 2 active sources requires 4 total TG samples (2 at each source)
- GWR Triggered Source samples must be collected on the same day as the Repeat Samples are collected

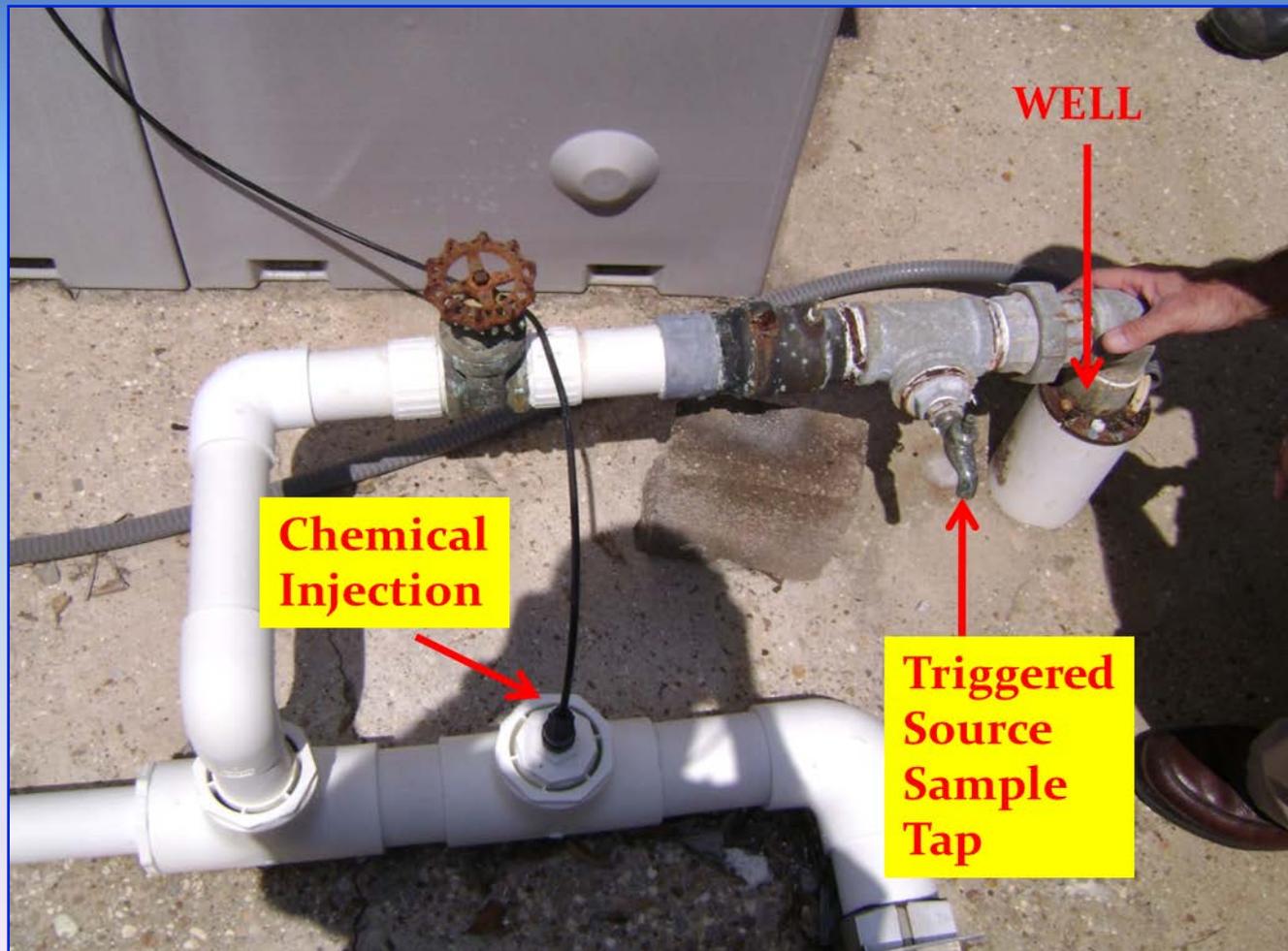
# Triggered Source Sample Collection Location



# Small System Well



# Submersible Well



# Consecutive Systems – GWR

Consecutive (Purchase) systems must notify Wholesaler of all TC+

Wholesalers must notify Consecutive systems of all TC Violations

All Active sources upstream of TC+ must be monitored

# Drinking Water Watch

- Available on WWW to all users
- Review Contact info for PWS
- View TCR Schedule
- Verify number sources for TG monitoring
- Report updates and changes to your Regional Engineering Services Office

**<https://sdw.opd.dhh.la.gov/DWW/>**

# Public DWW on WWW

Department of Health & Hospitals | S... x DHH Drinking Water Branch x +

la.gov https://sdw.oph.dhh.la.gov/DWW/ ☆ Google

Most Visited Getting Started Latest Headlines Bookmarks

DEPARTMENT OF HEALTH & HOSPITALS STATE OF LOUISIANA THIS SITE IS PART OF THE DHH NETWORK

### Public Water Supply Systems Search Parameters

Water System No.

Water System Name

Principal Parish Served

Water System Type

Primary Source Water Type

Point of Contact Type

### Sample Search Parameters

Sample Class

Sample Collection Date Range  To   
(The Sample Search always produces results for the last 2 years, unless you provide a specific date range.)

[Click Here for the Parish Map of Louisiana](#)

# Find your system - PWSID

The screenshot shows a Firefox browser window with the URL <https://sdw.oph.dhh.la.gov/DWW/JP/SearchDispatch?number=LA1001001&name=&county=All&WaterSystemType=All&SourceWaterType=All&PointOfContac>. The page header identifies the site as the Louisiana Department of Health & Hospitals, part of the DHH Network. The main content area is titled "Drinking Water Branch" and "Water Systems". A table lists one water system: LA1001001, Church Point Town of Water System, Type C, Status A, Principal County Served ACADIA, and Primary Source Water Type GW. The total number of records fetched is 1. The footer includes "CONTACT US" and "FEEDBACK" buttons, and the Department of Health and Hospitals logo. The Windows taskbar at the bottom shows the system time as 5:28 PM on 6/9/2012.

DEPARTMENT OF HEALTH & HOSPITALS  
STATE OF LOUISIANA

THIS SITE IS PART OF THE DHH NETWORK

## Drinking Water Branch

### Water Systems

Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type
<a href="#">LA1001001</a>	CHURCH POINT TOWN OF WATER SYSTEM	C	A	ACADIA	GW

Total Number of Records Fetched = 1

CONTACT US    FEEDBACK

DEPARTMENT OF HEALTH AND HOSPITALS

5:28 PM  
6/9/2012

# Contact Information

## Water System Details

**Water System No. :** LA1001001 **Federal Type :** C  
**Water System Name :** CHURCH POINT TOWN OF WATER SYSTEM **State Type :** C  
**Principal Parish Served :** ACADIA **Primary Source :** GW  
**Status :** A **Activity Date :** 01-01-1950

## Points of Contact

Name	Job Title	Type	Phone	Address	Email
LARSON, JOHN	OPERATOR	DO	337-684-5686	TOWN OF CHURCH POINT WATER SYSTEM, 102 CHURCH ST, CHURCH POINT, LA-70525	<a href="mailto:CPWATERWORKS@CHARTERINTERNET.COM">CPWATERWORKS@CHARTERINTERNET.COM</a>
LARSON, JOHN	OPERATOR	AC	337-684-5686	TOWN OF CHURCH POINT WATER SYSTEM, 102 CHURCH ST, CHURCH POINT, LA-70525	<a href="mailto:CPWATERWORKS@CHARTERINTERNET.COM">CPWATERWORKS@CHARTERINTERNET.COM</a>
BOUDREAUX, ROGER	MAYOR	LC	337-684-5686	TOWN OF CHURCH POINT, 102 CHURCH ST, CHURCH POINT, LA-70525	Not Available
MURPHY, JONATHAN	OPERATOR	OP	337-684-5686	102 Church Blvd, CHURCH POINT, LA-70525	Not Available
HEBERT, JOSEPH	OPERATOR	OP	337-684-5686	.	Not Available

# Facility List

Use to determine where to collect TG Samples

## Drinking Water Branch

### Water System Facilities

Water System No. :	LA1001001	Federal Type :	C
Water System Name :	CHURCH POINT TOWN OF WATER SYSTEM	State Type :	C
Principal Parish Served :	ACADIA	Primary Source :	GW
Status :	A	Activity Date :	01-01-1950

State Asgn ID No.	Facility Name	Type	Activity Status
<a href="#">DS0950</a>	DISTRIBUTION SYSTEM	DS	A
<a href="#">PF001</a>	SERVICE PUMPS	PF	A
<a href="#">EL001</a>	ELEVATED TOWER	ST	A
<a href="#">UN001</a>	CLEARWELL	ST	A
<a href="#">TP001</a>	TREATMENT PLANT	TP	A
<a href="#">1001001-002</a>	WELL #2	WL	A
<a href="#">1001001-004</a>	WELL #4	WL	A
<a href="#">1001001-005</a>	WELL #5 - B/W GUIDRY & S. ROGERS ST	WL	A
<a href="#">1001001-001</a>	WELL #1	WL	I
<a href="#">1001001-003</a>	WELL #3-ABANDONED	WL	I

# Monitoring Plan

- Maintain TCR and Disinfection monitoring in the Monitoring Plan Portal (MPP) - <https://www.ldhh-mpp.org/>
- TCR/ACR Monitoring Sites must be representative of the distribution system and not clustered together.
- Mandatory sites for TCR compliance monitoring include:
  1. Maximum Residence Time (MRT) - is where the water has been in the system the longest. Typically this is the furthest point in the distribution system.
  2. Midpoint – midway between the MRT and POE.
  3. Opposite from the MRT – other long distance site.
  4. Midpoint of site 3 and POE.
- Prohibited sites for TCR compliance monitoring:
  1. At or near the POE
  2. At Storage tanks
- Routine TCR samples shall not be taken at the same site more than once per month.
- Systems must rotate through all approved TCR sample sites.

# DHH Laboratory Update

- Metairie lab will be closing in March 2015.
- New sample depot in Metairie (L&A Road) will open for samples. (See SDWP website for sample depot information)
- Baton Rouge lab will open in April 2015
- Transport all TC and GW TG Samples directly to State Lab, or
- Drop off at Authorized Sample Depots based on Sample Truck Schedule listed on the SDWP website
- **Allow for minimum 30 hour hold time**

# Chain of Custody

- Collector name on Lab 8 Form
- Log Samples in at Drop off Depot/Lab
- Store in assigned refrigerator
- Follow Sample Truck Standard Schedule to determine when samples can be dropped off

TC Samples must be analyzed within 30 hours of collection time - you are responsible

# Who's Responsible??

## Public Water System

The WATER SUPPLY PERSONNEL are responsible for insuring that all water samples are collected during the correct compliance period and transported to a DHH approved laboratory on a timely basis.

# Public Notification

## TIER 1 VIOLATION

When routine and repeat samples are:

- Total Coliform positive and Fecal positive or
- FECAL positive and Total Coliform positive

Requires PN within 24 HOURS via:

- Electronic Media and
- Newspaper



Mail All Information to District Office.

# Public Notification

## TIER 2 VIOLATION

When sample results:

- Two TC positives/Mn or Qtr or 5% of samples (for systems that collect 40 or more samples)

Requires PN:

- Newspaper Within 14 days, and
- Mail or Hand Delivery Within 30 days

Mail All Information to District Office

# PUBLIC NOTIFICATION

## TIER 3 VIOLATIONS

When:

- Failure to collect required samples

Requires PN:

- Newspaper within 45 days, and
- Mail/Hand delivery within 90 days

Mail All Information to District Office.

# QUESTIONS

