



ENGINEERING SERVICES

Safe Drinking Water Program



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**Revised
May 08**

Long Term 2 Enhanced Surface Water Treatment Rule (LT2 ESWTR)

LT2 was promulgated on January 5, 2006
And is Effective on March 6, 2006

This rule only applies to Surface Water Systems!

Compliance with the requirements depends on
your population

LT2 ESWTR

Source Water Monitoring §141.701 (a) & (b):

Population	Monitor for	Frequency and Duration	
≥ 10,000 Schedules 1, 2 & 3	<i>Crypto</i> , <i>E. coli</i> and turbidity	Once per month	24 months
< 10,000 ¹ Schedule 4	<i>E. coli</i> ²	Once per 2 weeks	12 months

¹ Systems that serve less than 10,000 can monitor for *Crypto* instead of *E. coli* at least twice per month for 12 months or monthly for 24 months.

² Unless *Crypto* monitoring is triggered:

Lake/Res: annual mean >10 *E.coli*/100mL or Flowing (Rivers): annual mean >50 *E.coli*/100mL

Note:

Wholesale system must follow the schedule of the largest system in the combined distribution system (CDS).

Systems that purchase water and do not have their own surface water source do not have to comply with this rule!

LT2 ESWTR

Monitoring Avoidance §141.701 (d):

1. If filtered systems provide a total of at least 5.5-log of treatment for *Cryptosporidium* (equal to Bin 4 treatment in §141.711)
2. If unfiltered systems provide a total of at least 3-log *Cryptosporidium* inactivation (equal to treatment for a mean Crypto concentration of greater than 0.01 oocysts/L in §141.712)

Note:

The system must notify the state the intent to provide the above no later than the date for submitting the sampling schedule for monitoring (see next slide)

LT2 ESWTR

First Round Source Water Monitoring Schedules §141.701 (c)

Schedule & Population		Sampling Schedule Due	First Round Starts
1	≥ 100,000	July 1, 2006	October 1, 2006
2	50,000 - 99,999	January 1, 2007	April 1, 2007
3	10,000 - 49,999	January 1, 2008	April 1, 2008
4	< 10,000 & monitor for <i>E. coli</i> ¹	July 1, 2008	October 1, 2008
5	< 10,000 & monitor for <i>Cryptosporidium</i> ²	July 1, 2010	April 1, 2010

¹ Applies only to filtered systems

² Applies to filter systems that exceed the 10 *E. coli* /100 mL for Lake/Reservoir sources and 50 *E. coli*/100 mL for flowing streams sources and unfiltered system.

LT2 ESWTR

Second Round Source Water Monitoring Schedules §141.701

Schedule & Population		Sampling Schedule Due	Second Round Starts
1	≥ 100,000	January 1, 2015	April 1, 2015
2	50,000 - 99,999	July 1, 2015	October 1, 2015
3	10,000 - 49,999	July 1, 2016	October 1, 2016
4	< 10,000 & monitor for <i>E. coli</i>	July 1, 2017	October 1, 2017
5	< 10,000 & monitor for <i>Cryptosporidium</i>	January 1, 2019	April 1, 2019

¹ Applies only to filtered systems

² Applies to filter systems that exceed the 10 *E. coli* /100 mL for Lake/Reservoir sources and 50 *E. coli*/100 mL for flowing streams sources and unfiltered system.

LT2 ESWTR

Sampling Schedules and Monitoring Plans:

- Systems 10k or greater population:
 - Must submit their monitoring plan:
 - Electronically via the Data Collection and Tracking System (DCTS) @ <http://cdx.epa.gov/>,
 - By E-mail: stage2mdbp@epa.gov, or
 - By Mail to: US EPA – IPMC, P.O. Box 98, Dayton, OH 45401-0098
 - Must enter sample dates into CDX. For instructions on getting access to DCTS: <http://www.epa.gov/safewater/disinfection/tools/tools-dcts.html>
- Systems less than 10k must submit their monitoring plan and sample dates to the state.

Source Water Monitoring Guidance Manual:

http://www.epa.gov/safewater/disinfection/lt2/pdfs/guide_lt2_swmonitoringguidance.pdf

LT2 ESWTR

Sample Collection:

- Collect samples within two days before or after the dates indicated on sampling schedule (*i.e.*, within a five-day period around the scheduled date). You must arrange this with the lab
- Miss the five-day window, the sample must be collected within 21 days
- *Crypto* Samples must be at least 10 L (\approx 22 lbs) or filtered. Field filtration can save \approx \$100 per sample shipment
- *E. coli* samples analyzed by DHH must be collected in 7 oz. sample bags (larger than finished water sample bag)
- On-Line Sampling Module:
<http://www.epa.gov/safewater/lt2/training/index.html#>

LT2 ESWTR

Sample Shipping & Analysis:

- Samples must be shipped overnight and kept at the required temperatures (*e.g.*, *E. coli* <10°C, not frozen)
- Lab must start analyzing for *Crypto* within 96 hrs
- Lab must start analyzing for *E.coli* within 30 hrs
- Samples must be analyzed by an EPA Approved/Certified Lab
 - For *Crypto*:
http://www.epa.gov/safewater/disinfection/lt2/lab_aprvlabs.html
 - For *E. coli*:
State can run the *E. coli* analysis (see next slide for State Lab requirements)

State Lab Requirements for *E. coli* analysis:

Sample dates must be approved by the lab(s) before you submit your schedule to EPA

Use the following items:

- DHH-OPH Lab 8 Forms - must be filled out with Mandatory Information (see next slide)
- 7-oz. Sample Bags which are supplied to you by DHH-OPH since the bags require QC by the State Lab
- Small Ice chest labeled Raw Water Samples Only with a sample bag rack, don't combine w/ finished DW samples
- Use wet ice or a lot of ice packs; temperature must be $< 10^{\circ}\text{C}$ upon receipt at lab, samples cannot be frozen

Note: Leave 1" of air space in the collection bags

Lab 8 Form and Mandatory information

- PWS ID – supplied by system
- Facility ID (*e.g.*, PWS ID or Intake ID) – supplied by system
- Name of sampler – supplied by system (collected by who?)
- Sample Identification – supplied on Lab 8 Form (stick on sample)
- Sample Collection Point ID (POC ID) – supplied by system
- Sample Collection Date and Time – supplied by system (24hr clock)
- Sample Type – mark Non Potable 6.
- **Source Water Turbidity** – *e.g.*, 50 NTU
- **Source Water Type** – put in comments field: **FS** for a flowing stream (*e.g.*, river or bayou) or **R/L** for a Reservoir or Lake
- Analytical Method number – supplied by Lab
- Method type – supplied by the Lab
- Project Code - 0838

Lab 8 Form

WRITE FIRMLY WITH BALL POINT PEN - DO NOT USE FELT PEN OR PENCIL
DO NOT FOLD OR WRAP AROUND SAMPLE BOTTLE.

Example

1 of 1 Project Code 0838

LAB USE ONLY
Lab Sample & Lab Nos
Lab Date and Time Received

RECEIVED BY: _____
Rec Temp: _____ °C _____ on ice
RT

LOUISIANA D.H.H. OFFICE OF PUBLIC HEALTH
DIVISION OF LABORATORIES - WATER MICROBIOLOGY
LABORATORY REQUEST AND REPORT FORM

Name of Supply
Glory Water System

Address
2428 High Hills Road

City Glory State LA Zip 70823 Parish Black River Collected by Alvin Robert

Public Water Supply ID (PWS ID) 1019999 (1-7)
Date Collected 113008 (8-13)
Time Collected 200 (14-17)

Point of Collection (POC) or POC ID
1019999-01
PLEASE PRINT OR TYPE

*Note: All repeat drinking water samples should have the ab. sample no. of the initial water sample in parentheses at the end of the POC eg. 10034(6) (18-47)

TYPE OF SAMPLE

Drinking Water Program

1. Routine
2. Replacement
3. Repeat - Original Tap
4. Repeat - Upstream Tap
5. Repeat - Downstream Tap
6. Repeat - Additional Tap
7. Investigative
8. Other - Describe above - POC (48)

Other Potable

1. New Facility (Line, Well, etc.)
2. Well
3. Private Supply
4. Other - describe below in comments

Non Potable

1. Raw Water
2. Surface Water
3. Recreation Water (Bathing Area)
4. Sewage
5. Other - describe below in comments
6. LTP Source Water (Specify type below in comments)

Comments / Special Tests
FS (River) or RL (Lake)

Source Water Turbidity (NTU) 23

Disinfectant Residual (Free Chlorine) (Total Chlorine)

LABORATORY USE ONLY

MMO-MUG Total Coliform P/A
D. Not Found
1. Present (49)

MMO-MUG E. Coli P/A
D. Not Found
1. Present (50)

MMO-MUG Total Coliform MPN / 100 ml
Multiple Tube Fermentation Total Coliform MPN MPN / 100 ml

MMO-MUG E. coli MPN / 100 ml
Multiple Tube Fermentation Fecal Coliform MPN MPN / 100 ml

Standard Plate Count / 1ml
Other Tests

Remarks

Date Analyzed:
Time Analyzed:
Analyst:

LABORATORY COPY Sample No. **S 642203**
S 642203

DETACH AND PLACE NUMBERED TAG ON SAMPLE BOTTLE CAP

Use Non Potable Section & Insert 6

Put Source water Turbidity

Put:
Water body type, FS-flowing stream or RL for Lake

LT2 ESWTR

State Lab contact information:

- Amite Regional Lab:

Richard Samuels, Manager 985-748-2011

- Shreveport Regional Lab:

James Gilbert, Manager 318-221-0859

- Lake Charles Regional Lab:

Susan Krous, Manager 337-475-8040

Sample Review/Release

Systems 10K or greater must review and release *Crypto & E.coli* samples results in CDX

(<http://cdx.epa.gov/>) by:

- Selecting each sample or 4 at a time
- Change status to APPROVED
- SAVE it before exiting

This will release the samples for State and EPA review

This must be done monthly within CDX under the LT2 Data Collection System

Sample Review/Release

Figure 2

Cryptosporidium - ZZTest 1a - DC1a

To submit 'Pending' samples as approved or contested, or return 'Pending' samples to the lab for correction, change the status drop-down menu. Click the "Save Changes" link to complete the action. [More information](#) regarding each sample can be found by scrolling down. Click the field name for more information.

[Return to Search Screen](#)

[Save Changes](#)



Status	Pending Approval	
SYSTEM GENERATED CRYPTOSPORIDIUM CALCULATIONS		
Sample ID (optional)		
PWS facility ID	Nada	
PWS facility Name	Nada Test 2	
Sample collection point ID	SP	
Sample collection point Name	Sample Point	
Sample collection date	11/02/2006	
Sample type (Field or MS)	Field	
Sample volume analyzed (L)	10	



DHH - OPH - Center for Environmental Health

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Questions?

Program Managers

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- Stage 1 & 2 DBPR (TTHMs & HAA5)
- LT2 ESWTR

Sean Nolan

225-342-7495

- Lead & Copper
- Consumer Confidence Reports
- Approved Labs
- Fluoride

Brandon Taylor

225-342-7392

- Arsenic
- Acrylamide & Epichlorohydrin
- UCMR2
- Radionuclides