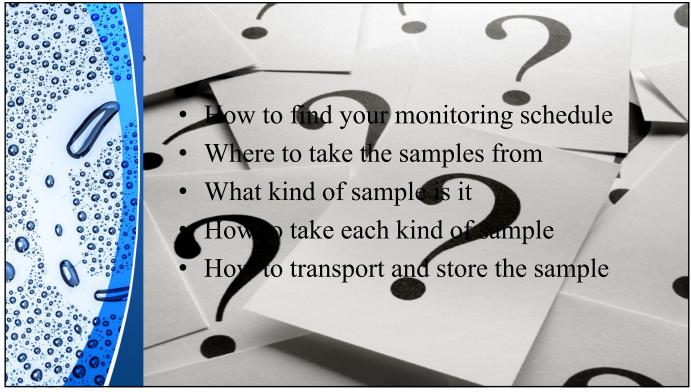
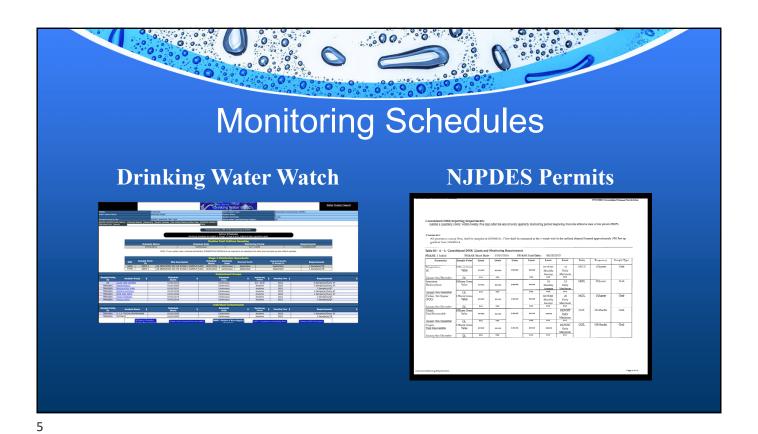


AGENDA • Samples & Sampling • Analytical Laboratories • Results • Reporting • Record Keeping







NJDEP Drinking Water Watch

https://www9.state.nj.us/DEP_WaterWatch_public/index.jsp OR

google: NJDEP DRINKING WATER WATCH

- Need PWSID# or System Name
- Inactive/Active Monitoring Schedules
- Wealth of Info: Facilities, Treatment, Routine Monitoring Schedule, Locations, Frequency, Historical Data, Violations, Service Connections, Consecutive Connections, Etc.
- YOU MUST CHECK IT!!! Monthly, Quarterly, or what your schedule calls for





NJDEPS Permit

DEP DataMiner Wesbite

OR google: NJDEP DataMiner

- Need NJPDES Permit Number
- Sampling Requirements and Permit Limits
- Changes to Existing Permits
- Requirements for additional testing outside the normal schedule are found in the TEXT of the permit. There is a lot of useful information (DRBC Requirements, Bioassay testing, etc.)

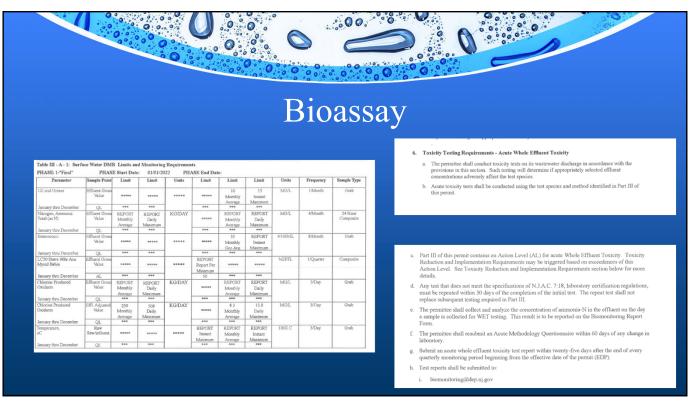
Consolidated DMR Reporting Requirements:
Submit a Quarterly DMR: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).

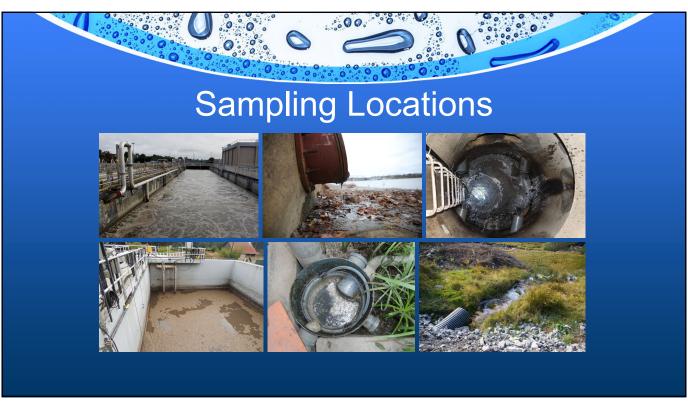
Comments:
All parameters, except flow, shall be sampled at DSN001A. Flow shall be measured at the v-notch weir in the unlined channel located approximately 500 feet up gradient from DSN001A.

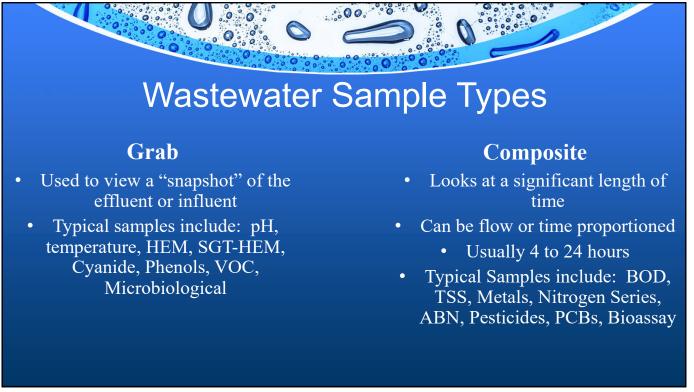
Table III - A - 1: Consolidated DMR Limits and Monitoring Requirements

| Parameter | Sample Point | Limit | Limit | Units | Limit | Limit | Limit | Units | Frequency | Sample Type |
|-----------------------|----------------|-------|---------|-------|-------|---------|---------|-------|------------|-------------|
| a an anneces | Onnipie r onne | 2 | 2,,,,,, | Cinto | | | | | | |
| Temperature, | Effluent Gross | | | | | REPORT | 30 | DEG.C | 1/Quarter | Grab |
| oC | Value | **** | ***** | **** | ***** | Monthly | Daily | | | |
| | | | | | | Average | Maximum | | 1 | 1 |
| January thru December | QL | *** | *** | | *** | *** | *** | | | |
| Petroleum | Effluent Gross | | | | | 10 | 15 | MG/L | 1/Quarter | Grab |
| Hydrocarbons | Value | **** | *** | ***** | **** | Monthly | Daily | | 1 | |
| | 1 1 | | | 1 | | Average | Maximum | | | |
| January thru December | QL | *** | *** | 1 | *** | *** | *** | | | |
| Carbon, Tot Organic | Effluent Gross | | | | | REPORT | 20 | MG/L | 1/Quarter | Grab |
| (TOC) | Value | **** | **** | ***** | ++++ | Monthly | Daily | | | |
| | | | | | | Average | Maximum | | | |
| January thru December | QL | *** | *** |] | *** | *** | *** | | | |
| Nickel, | Effluent Gross | | | | | | REPORT | UG/L | 1/6 Months | Grab |
| Total Recoverable | Value | **** | **** | **** | **** | ***** | Daily | | 1 | |
| | 1 1 | | | 1 | | | Maximum | | | |
| January thru December | QL | *** | *** | | *** | *** | *** | | | 1 |
| Copper, | Effluent Gross | | | | | | REPORT | UG/L | 1/6 Months | Grab |
| Total Recoverable | Value | **** | **** | ***** | **** | **** | Daily | | | |
| | | | | 1 | | | Maximum | | | 1 |
| January thru December | QL | *** | *** | | *** | *** | *** | | | |

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Drinking Water Sample Locations

Descriptions are IMPORTANT!

- DS = Distribution System
- TP = Treatment Plant
- POE = Point of Entry
- WL = Well (Raw Water)
- IN = Intake from Surface Water
- CC = Cross Connection

Keep in Mind!

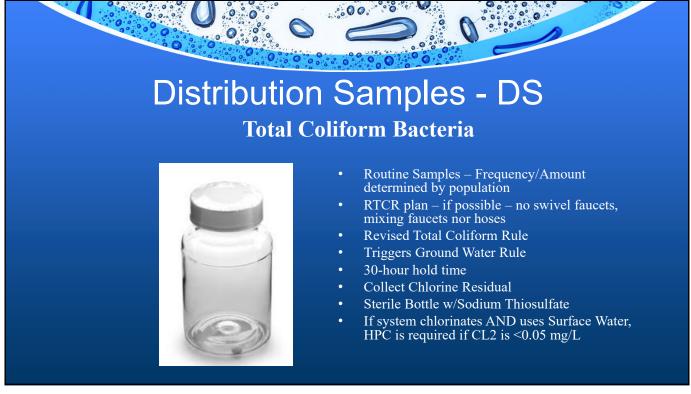
- Use the NJDEP Monitoring Schedule
- Designate DS, POE and RAW sample and make sure your lab knows these locations. Ensure it is coordinating on your chain of custody

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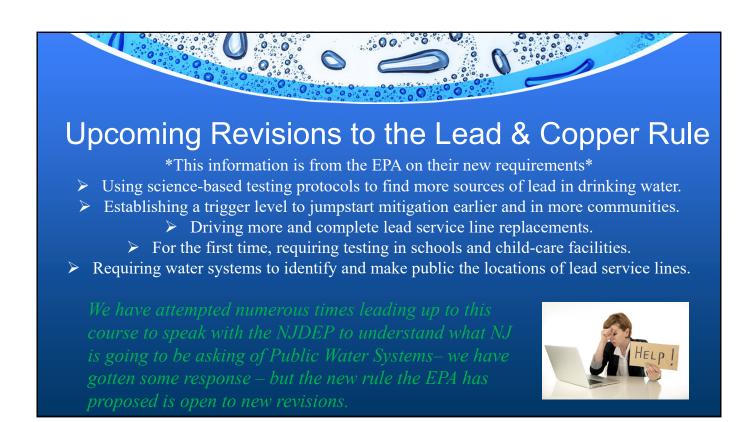


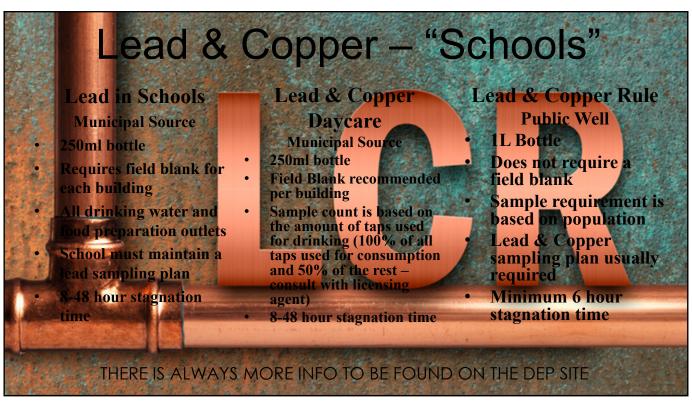
What Samples Come from Where?

- Distribution
 - Bacteria (Coliform & HPC)
 - Throughout the entire distribution system and based on your established RTCR Sampling Plan.
 - Lead and Copper
 - Throughout your entire distribution system and based on your tiers and established Lead & Copper Sampling Plan.
 - These samples are super site specific they MUST be sampled at the established locations AND uploaded to E2 specifically for that sample location. They will be rejected if taken at a location NOT on the established Pb/Cu Sampling Plan.
 - THM/HAA
 - Sample locations dictated by maximum residence time.
 - These samples if taken at a different location or changed location must be cleared thru the DEP.
 - Not only site specific but also has a very specific sampling period +/- 3 days from the original sample every 3 months or +/- 3 days for annual samples.











Distribution Samples - DS

Disinfection By-Products – THM/HAA

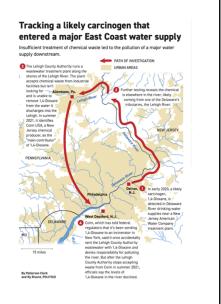
- Only necessary when disinfectant (Chlorine) is added
- Must be sampled every 90 +/- 3 days or annual +/- 3 days
- Unique reporting codes/Predesignated Sample locations these locations must be used. If they have to be changed you need to advise NJDEP
- Why is this monitoring done?
 - DBPs are a possible carcinogen, can cause birth defects, and have a negative affect on marine animals
- Monitoring is also done for dischargers to ensure low levels

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"New" Contaminant - 1,4 Dioxane

- Byproduct of Plastic Manufacturing
- Considered a "Likely Carcinogen"
- HIGH levels set off alarms when found in the water supplies in 2020 by American Waters S. Jersey Plant that supplies Burlington, Camden, Gloucester & Salem counties
- New proposed rule would limit to .33 ppb
 - 2020 samples were 10x that
- Trackback sampling success
 - Coordinated effort of both sides of water treatment





Point of Entry Samples

- Volatile Organic Compounds
- USEPA 504.1 (1,2,3-TCP, EDB, DBCP)
- PFC's (PFNA, PFOA, PFAS)
- Inorganics
- Secondaries
- Radiologicals
- Nitrates
- Nitrites



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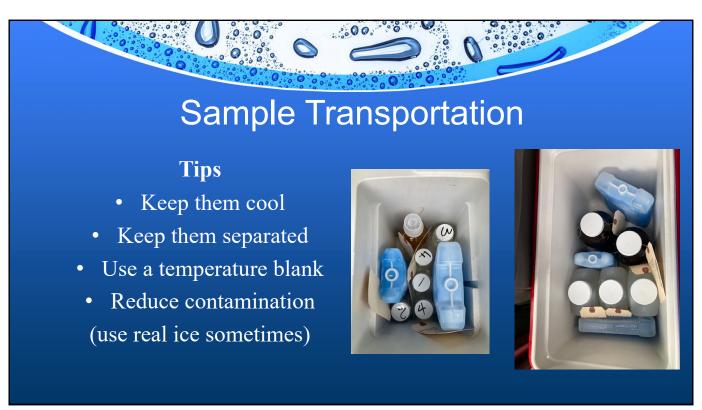
Water Quality Parameters

- Different Monitoring Requirements by "Period"
 - Initial
 - Quarterly
 - Semi-Annual
 - Bi-Weekly
- Each time period/treatment has different requirements
- pH, Temp, Orthophosphate, Alkalinity, Lead & Copper, etc.
- Bi-weekly is rolling weeks, not just every other week check your start date on DWW and download the schedule on the DEP's website



Things to keep in mind! • Use the correct bottles for the type of sampling being performed. – Best to have these provided by the lab

- Observe the correct sample collection procedure
- Bring samples to the lab the same day as sample collection
- Samples should be kept on ice in a cooler





Chain of Custody

- Basic Client Information: Name, Address, <u>Primary Point of Contact</u>, PWSID#, NJPDES#, Billing Info etc.
- Sample Collection Information: Sample Location or <u>Field</u> ID, Date, Time, Matrix.
- Technical Information: Analysis Requested, Sample Bottles, Preservatives, Field Analysis.
- Reporting Requirements: Turn-Around Time, Compliance, Process Control.
- If you are doing your own sampling, you must fill out the Chain of Custody. Ensure if you use a chemical abbreviation, it is the right one.



Can I take my own samples?

Make sure you have the appropriate containers.

If you are taking bacteria samples, chlorine reading MUST be taken with a detection limit of 0.05 ppm.

Ensure you keep them on ice until you get them to the lab.

Make sure you are CERTIFIED for any parameters you are analyzing yourself for your permit requirements (Wastewater).



Who will sample?

- Type of sample?
 - Grab
 - Composite
- Do you have the correct equipment?
 - − Yes − you can sample
- − No − you need a lab to arrange sampling Specify the anticipated sampling frequency and/or sample pick-up.





Compliance or Not?

Compliance Samples

- For regulatory compliance
- For wastewater you may take multiple samples to average down a high result

Not for Compliance Samples

- For informational purposes
- Ensure disinfection
- Opening seasonal systems
- Treatment technique efficacy

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Permit Issues

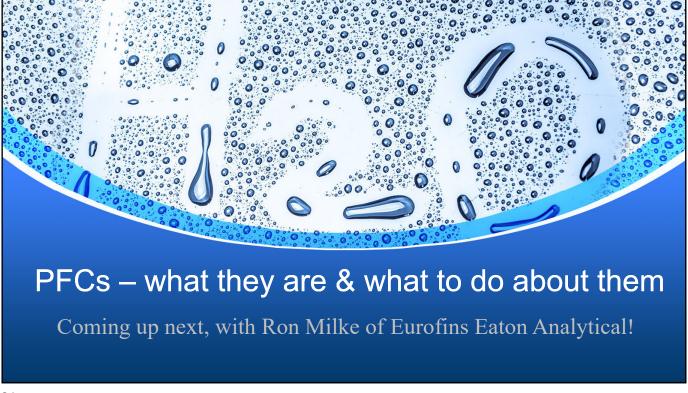
- Limits specific to each individual facility and monitoring location
- Monthly, Quarterly, Semi-Annual and Annual requirements
- Samples can be grab or composite
- Monitoring periods determined by Permit Effective Dates
- Each facility has unique sampling requirements (analytes) determined by many factors
- Recommended quantitation limit!



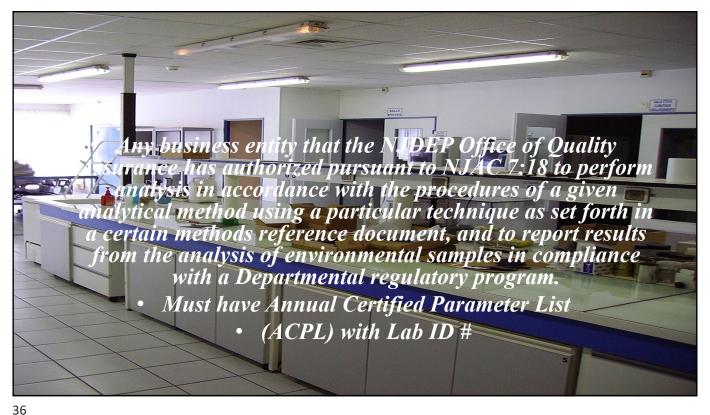
Sampling Hints



- NO Air bubbles in the Vials
 - 504.1, THM HAA, VOC, etc.
- No Fingers in the Coliform bottles!
- COC must match the sample bottle labels
 - date of collection, time of collection and sample location.





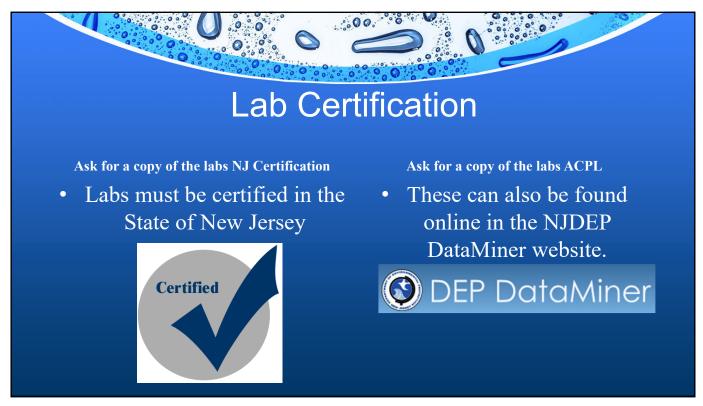






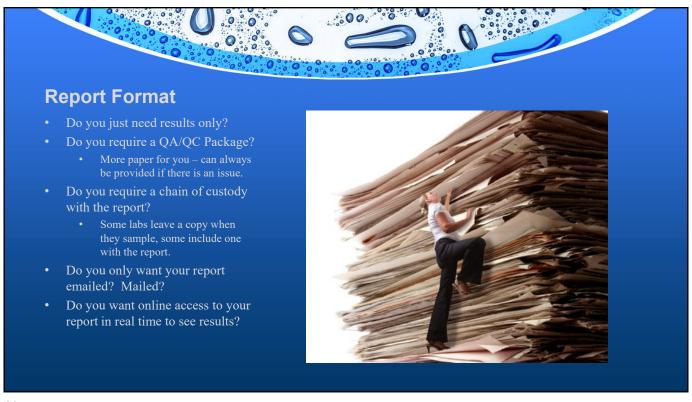


Choosing a Laboratory Price/Service/Attitude Notification of MCL exceedances Turn-Around Time Knowledge of NJDEP Certified Parameters Regulations for water Reporting regulatory systems results to NJDEP E2 • Hidden Charges database (Reporting, sample Report Format pickup, etc.)











Make sure you specify the forms that you want the lab to complete in addition to the standard form.

Some Examples

- DMR
- CMR
- Joint Meeting forms
 - Uploading to E2
 - BSDW Forms
 - LT2





Other Considerations

- Finding a good lab for you...
 - Customer Service
 - Being able to get a HUMAN
 - You don't think about it...until there is an issue.
 - Having an ally to guide you through a NOV, work with the DEP, get the bottles to you in an emergency, pickup in an emergency, run your repeats on a weekend, or Christmas.
 - IT IS NOT ALWAYS JUST ABOUT THE \$

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Requirements for Certified Labs In order to obtain certification: Apply to analyze a parameter in accordance with an NJDEP OQA approved analytical method (Standard Methods, EPA, ASTM, Proprietary Methods, etc.). CERTIFIED Submit "Standard Operating Procedure" for approval, demonstration of capability and evidence of equipment needed and MDL study if applicable. Successfully pass "Proficiency Study" (which can consist of one or two rounds). Any method, but specifically complex analytical methods require additional demonstrations of capability prior to certification and an onsite audit by NJDEP.



Requirements for Certified Labs

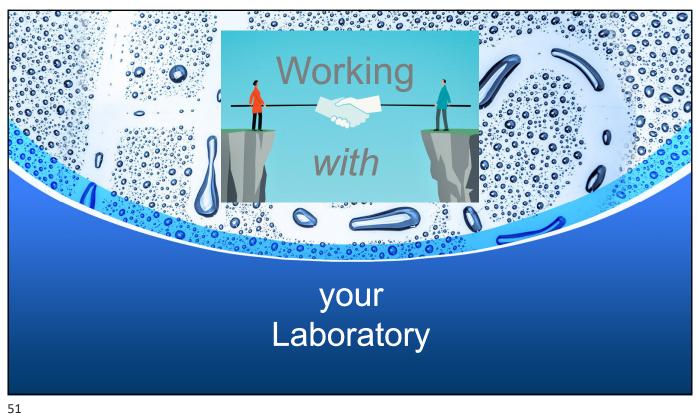
- In order to MAINTAIN Certification
 - Annual Proficiency Studies for each certified parameter for each program interest which consists of one or two passing rounds of samples
 - Analyze samples in accordance with SOPs
 - Periodic Laboratory Audits
 - Periodic Lab Equipment Checks
 - Check Standards for pH it must be checked every 3 hours
 - Duplicates, spikes, calibrations, MDLs

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What does my Lab do?

- Can sample the sites that have been identified for sampling.
- Will analyze your sample for the required parameters or arrange to subcontract.
- MUST report compliance samples to the NJDEP (For the most part, via E2)
- Can guide you through the necessary steps when you have a sample that is out of compliance.
- CANNOT notify the NJDEP on your behalf when you have an E.Coli positive sample.





How long it takes to run a sample:

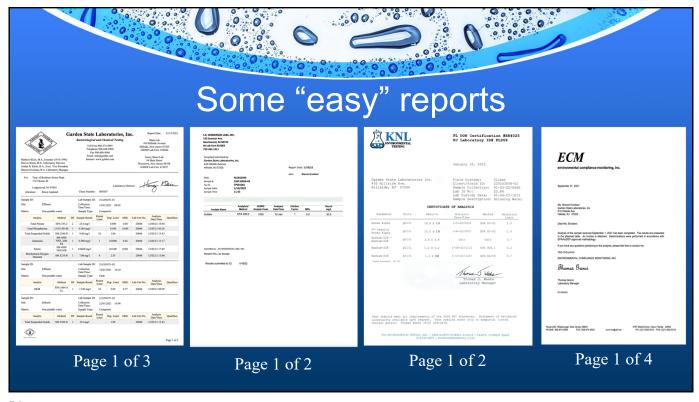
- Coliform
- BOD
- Metals
- General Chemistry
- Analyze immediate

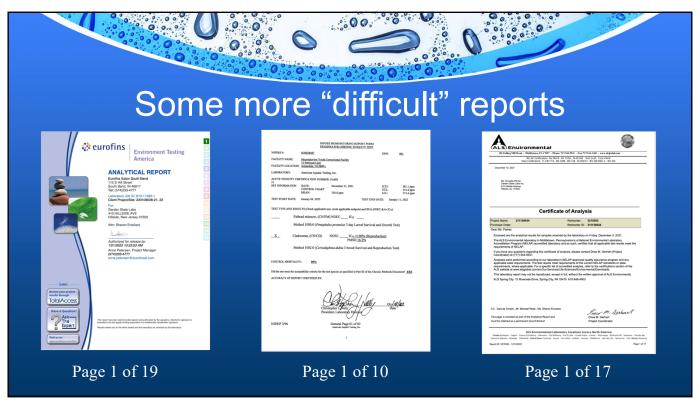


There is a result, now what?

- Analyst gives the data to supervisors who check to ensure all is proper with the analysis, methods, units, procedures, etc.
- After that approval, results are passed to reporting for data entry and report prep.
- All reports are reviewed by the department manager to ensure data looks correct (exceedance reports to client).
- Completed reports head to the Laboratory Director for final approval and signatures.

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Where are my results, and why so many pages?

- Standard turnaround time for most labs is 10 business days that assumes that there are no emergencies or problems that sneak in during your analyses.
- There are requirements that the laboratory must fulfill before releasing your results:
 - QC results must meet specified method requirements
 - Department Manager Review
 - Printing of Report
 - Lab Director Review and Signature
 - Primary Lab MUST by regulation send the complete report from the subcontract lab(s)



When Can I Get my Results?

• What is the Standard Turnaround Time for your Lab?



- You need your results quickly...
 - Can your lab do this?
 - Specify in bids and quotes what your turnaround time needs to be.

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Interpreting Analytical Results

- Watch the UNITS! (mg/L=ppm, ug/L=ppb, ppm>ppb)
- Analytical report typically includes: Sample collection information, analytical method, analysis date and time, unique laboratory ID#, Lab Certification ID, Lab Manager Signature.
- If you don't understand, call your lab and ask them to help!

HELP!





Who you gonna call?

- Call your lab...they do NOT know you have received the violation. You (the water system) and Licensed Operator are the only ones to receive the notice.
- The lab can help and advise you what the next steps should be.
- If you choose to ignore the violation; there could be monetary penalties.



DRINKING WATER MCL VIOLATIONS

•Routine Coliform samples - the lab has 24 hours to notify the system of a positive. For E.Coli the lab must inform the DEP hotline. *However*....for E.Coli - The <u>SYSTEM MUST</u> notify the NJDEP at 609-292-5550 during regular working hours of an E.Coli detection. After hours and on weekends you must call the Hotline at 877-927-6337 and tell them you need to speak with someone from Water Supply. You should also call your local health department.

- •Nitrates over 10 ppm the lab must notify the client and the CEHA agency.
- •There are no other laboratory requirements for immediate notifications.

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NJDEP E2 – Electronic Reporting

- Electronic system for reporting of drinking water results can only be done by the lab analyzing the sample.
- Most labs submit in batches of many samples.
- Results must be reported by the by the 10th of the month following the month in which any test, measurement or analysis is made. Compliance on Coliform is usually run by the day after the 10th so checking is critical.
- Check on your lab when you receive your results look on Drinking Water Watch to make sure they are uploaded. If your results are not in DWW, call you lab and find out why.

Provides educational material consumers to make educated decisions regarding any potential health risks pertaining to the quality, treatment, and management of their drinking water supply. Required for all community water systems regardless of size. Must contain a brief water quality report summarizing information about source water, detected contaminants, compliance and educational information. Increases Awareness of consumers. Consumer knowledge of sources, quality, contamination, etc. Dialogue between utility and consumer.

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Wastewater Permit Limits Supply these limits to your laboratory. If you don't, the lab has no idea how to help you. Establish protocol with your laboratory on who is to be informed and how. Have a back-up plan...you never know where you may be when the exceedance occurs. If you have an exceedance – arrange for resampling and/or sample pick up. Many parameters can be averaged for compliance.

Recordkeeping

- Safest bet keep all records for 5 years.
- · Things this includes:
 - Chain of custodies
 - Data log books
 - Reports of Analysis
 - Calibration logs
 - pH
 - Chlorine
- Data and records pertaining to public health concerns are to be kept for 10 years.

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