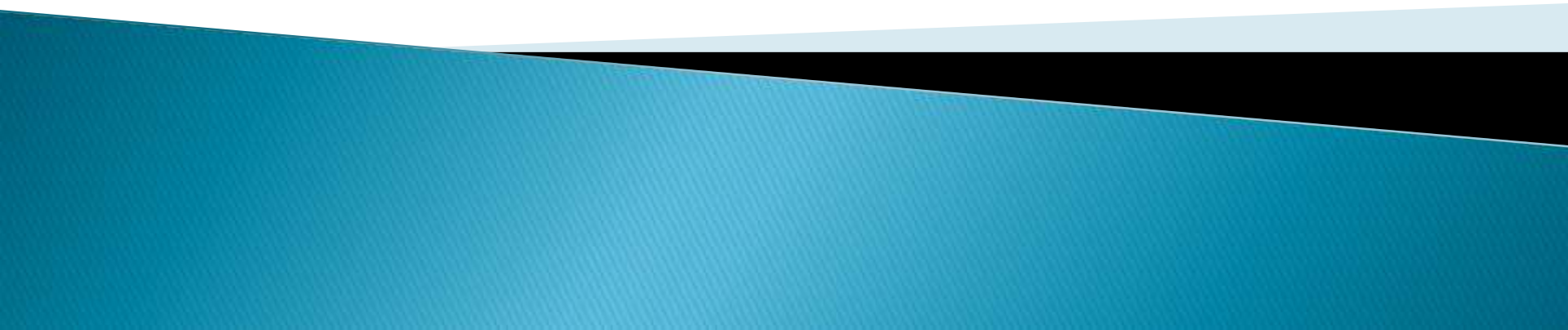


A Guide to (mostly) Stress-Free Audits

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Keep the purpose in mind...

- ▶ Protecting public health and the environment
- ▶ Producing data with confidence
- ▶ Consistency
- ▶ Clear guidance
- ▶ Defensible data



Go to the source...

- ▶ Drinking Water Lab Manual (EPA)
- ▶ NPDES Audit Handbook (EPA)
- ▶ Auditors – MDEQ
- ▶ Lab Practices Committee
- ▶ Other utilities




Don't reinvent the wheel...

- ▶ SOP's
 - ▶ Bench sheets
 - ▶ Log forms
 - ▶ Calculations
-
- Websites
 - Webinars
 - Lab Practices Committee



Document, document, document...


- ▶ Chain of Custody
 - ▶ All measurements
 - ▶ No such thing as too much information
 - ▶ Track and properly mark all changes
- 

Remember that one time when...?



- ▶ Leave a trail that others can follow
- ▶ Explain anomalies
 - Issue
 - Explanation
 - Resolution
- ▶ Be able to locate all sources

Methods, methods, methods...

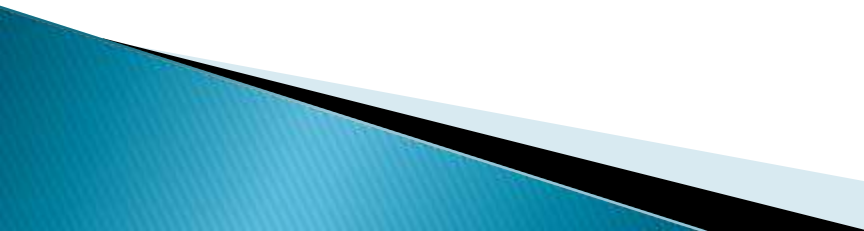
- ▶ Approved?
 - ▶ Correct version?
 - ▶ Method Update Rule
 - ▶ CFR
 - ▶ SOP's
- 

Easy points!

- ▶ Maintenance Records
- ▶ Temperature devices
 - Certificates
 - Calibration
 - Correction Factors
- ▶ Hold Times
- ▶ Sample containers
 - Proper type
 - Cleaning/sterilizing



More Easy points!

- ▶ Bench Sheets
 - Legible
 - Ink
 - ▶ Significant figures / rounding
 - ▶ Reagent tracking
 - ▶ Clean, properly working instrumentation
 - ▶ If use contract labs
 - Keep data and chain of custody
 - Maintain a current copy of their QA/QC plan
- 

QA/QC

- ▶ Double check method requirements
- ▶ Do everything in the method
 - Duplicates
 - Spike samples
 - Blanks
 - MDL's
- ▶ Pay attention to frequency
- ▶ Blind study samples
 - WS (drinking water)
 - DMRQA



Keeping a fresh perspective...



- ▶ Get out the SOP's
- ▶ “Trade” with another organization
- ▶ New people = fresh eyes
- ▶ Challenge yourself to find at least two improvements each year

When audits happen...

- ▶ Clean up the physical space
- ▶ Locate logs, records, QA/QC documents, etc
- ▶ Take notes
- ▶ Go in a logical order
- ▶ Have as many people as possible participate/observe
- ▶ Ask questions!!!
 - ▶ *REMEMBER THE PURPOSE*

Questions?

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