The Road to Accreditation: One Lab's Path to Success
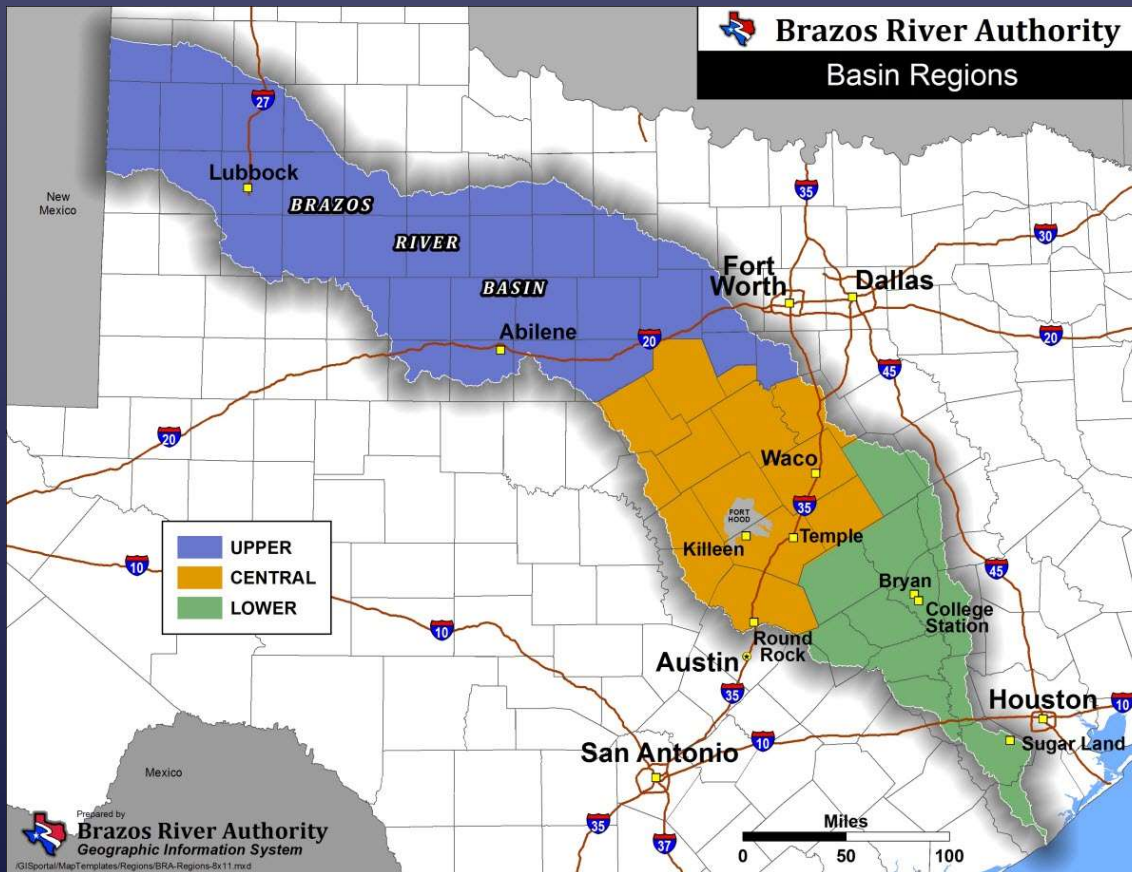
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Brazos River Authority

My Background

- Started in California
  - Many years employed in both public and private sectors
  - Lab analyst and QA Officer

- Moved to Texas
  - Lab analyst for City laboratory
  - QA Officer for BRA

BRA Background

- Created in 1929
- Brazos River basin
  - Dams and Reservoirs
  - Water and Wastewater Treatment Plants
  - Water Delivery Pipelines
- Self supporting
  - Occasional grants
  - Water sales
  - Treatment plant operations

Central Basin Lab Background

- Two BRA laboratories
  - Environmental Services Laboratory (ESL)
  - Central Basin Laboratory (CBL)
- CBL current location opened in 2007
- Onsite laboratory supporting several wastewater plants
- Process control and reportable samples
- Small staff
- Basic equipment

2007

- Inexperienced staff
- Non-laboratory equipment
- No LIMS
- No SOP's or Quality Manual
- Inadequate QA/QC program
- Less than 6 months to complete application

How did we get here?

www.hutton.ac.uk

VS

www.123rf.com

2007

2016

First things first

- Deadline of Dec 31, 2007
- QA Manual
- SOP's
- PT studies
- Application
  - Quality Manual & Policies and Procedures Checklist

Now the fun begins!

What affects the entire laboratory?

- Refrigerators
- Glassware
- Dishwashers
- Equipment calibration
- Temperature tracking
- Sample bottles
- Chains of custody

Analysis-specific

- Types of QC and frequency
- QC limits
- MDL/LOD studies
- Second source standards
- Demonstration of capability
- Appropriate chemicals and equipment

Documentation

- Control charts
- Equipment list
- Sample disposal log
- Reagent and standard prep logbooks
- Equipment maintenance logbooks
- Analysis logbooks
- Signature/initial log
- Training logs

Analyst Training

- How to make standards/reagents properly
- How to correct mistakes
- QA terms and definitions
- How to review data
- How to document abnormal samples/situations
- How to perform QC calculations

What happens now?

- Notification of onsite audit
- Preparation for audit
- Onsite audit
- Audit report
- Response to audit report
- Certification!

Finally!

Advice

- Stay organized
- Hire someone
- Communicate
- Resources
- Other labs
- Upper management

Preparing for the audit

- You will receive notification in plenty of time.
- Scour through the checklist of the accrediting body.
- Prepare your staff.
- Write down any questions you may have for the auditors.
- Don't panic.

Points to Consider

- There are absolute rules that must be followed.
- There are guidance rules that allow you to create your own criteria.
- Documentation is of utmost importance. You do not have to be perfect, but you have to explain why you are not.
- PT providers are very knowledgeable.
- The accrediting bodies are on your side.
- There *will* be findings at your on-site audit.
- Just like raising children, no one is ever completely prepared.

Resources

- http://www.nelac-institute.org/index.php
    - http://www.nelac-institute.org/content/shop.php
- http://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml
- https://www.epa.gov/quality/epa-quality-management-tools-organizations-and-programs

Questions?