Laboratory Fraud and Improper Laboratory Practice

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Introduction

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Definitions:

- **Laboratory Fraud** is the deliberate falsification of analytical and/or quality assurance results so as to make failed results appear as acceptable when reported to the data user. It **requires intent**.

- **Improper Laboratory Practices** is inadvertent divergence from required methodology, quality assurance, or good laboratory practice, and may be caused by honest error or ignorance, with **no intent to falsify**.
Laboratory Fraud May Include:

- Improper manual integration (peak shaving, peak juicing) to intentionally make calibration and QC data appear better than it really is.

- Time travel to intentionally make it appear that holding times were met or analyses were conducted while an acceptable calibration was still valid.

- Drylabbing to report data for samples that were never analyzed, by either manufacturing data or copying data from the analysis of another sample.
Improper Laboratory Practices May Include:

• Some of the issues noted as Fraud in the last slide, but with no intent to be fraudulent.

• No record that the temperature of samples requiring temperature preservation were being checked upon arrival.

• No record that thermometers, balances, and pipettes were properly maintained and calibrated.

• Using a reagent pillow designed to make 3-L of BOD dilution water in each 300-ml BOD bottle.

• Calibrating the pH electrode by placing it directly in stock buffer bottle.

• And others.
Why Do Fraud and Improper Practices Occur?

- Improper or inadequate training
- Time pressure to meet holding time limits or customer demands
- Pressure to overcome equipment failure
- Management pressure to get the work done
- Customer pressure to get a particular kind of result
- Price and market pressure
When I Perform a Routine Laboratory Assessment

• I am not specifically looking for fraud.
• My assessments are cooperative and not adversarial.
• We assume that the laboratory has nothing to hide, and that we and the laboratory have a common goal of producing useable and defensible data.
• We conduct our assessments by comparing the laboratory’s practices against established standards.
• We are primarily looking for improper laboratory practices that diverge from those standards.
Some Suspicious Observations

- Time travel
- Too perfect data
- Identical data
- Improper peak integrations
If You Observe Suspicious Laboratory Practices

• Make copies of what you observe.
• Contact:

  Kathy Lee  
  Iowa Department of Natural Resources - Water Supply  
  Wallace State Office Building  
  502 E. 9th Street  
  Des Moines, IA 50319-0034  
  Kathy.Lee@dnr.iowa.gov  
  (515) 725-0343
How Can We Prevent Improper Laboratory Practices?

• Ensure that laboratory staff are properly trained
• Use standard operating procedures
• Internal and external assessments
• Ethics training
• Management commitment to ethical standards
• Reasonable and realistic expectations for staff
• Management must protect staff from pressure from customers
WE EACH HAVE A RESPONSIBILITY TO AVOID AND PREVENT IMPROPER PRACTICES AND FRAUD

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Questions will follow Ms. Bahney’s presentation
What Constitutes Fraud?
SDWA Crimes - 42 U.S.C. § 300h, 300i

• A person willfully violates any requirement of a UIC Program or Administrative Order [issued under 42 U.S.C. 300h-2(c)]
• A person willingly operates a new UIC well without a permit in a “one aquifer area” before a UIC program takes effect
• A person tampers or threatens to tamper with a Public Drinking Water System with the intention of harming persons
CWA Crimes - 33 U.S.C. § 1319 (c)(1)&(2)

- Tampering with Monitoring Equipment or Method
- CWA False Statements
- Direct Discharge to Waters of the U.S.
- Discharge to a POTW in Violation of Pretreatment Standards
- Discharge to a POTW Causing Harm to the System/Causing Violation of NPDES Limits
- CWA Knowing Endangerment
18 USC 1001 Violations

- False Statements
- Mail/Wire Fraud
- Obstruction
- Conspiracy
What Differentiates a Case from Being “Criminal” Versus “Civil” When Deciding How to Pursue it?

- Does it meet the definitions in the statute?
- Knowing violations
  - Defendant aware of facts underlying the violation
  - Conscious and informed action/not an accident or mistake
- Negligent violations
- Other factors:
  - Sufficiency of evidence
  - Compliance history/repeat offenders
  - Proving harm is not a requirement but may be a factor
The Investigative Process

- Tips/leads
- Surveillance
- Tools: samplers, dye tests, vehicle trackers, pole cameras, A/V recordings
- Interviews
- Search warrants/subpoenas
- Indictments
- Pleas/convictions
  - Parallel proceedings
  - Sentencing guidelines
Key Information You Can Provide:

• Notification that a crime may be occurring
• Technical and regulatory expertise
• Detailed understanding of company operations including past results, chain of custodies, sample drop-off habits
• Testing, sampling, laboratory analysis
Case Examples
CWA False Statement Crime:
Bruce Morris (Landmarc Estates), Taney County, Missouri

- Landmarc Estates is a subdivision around Table Rock Lake
- The subdivision hired Light Environmental/Bruce Morris to run the wastewater facility
- March 2008-January 2009: WWTF w/o power, sewage runs to Table Rock Lake, Morris submits false DMRs to MDNR
- June 2013: Morris sentenced to three months home confinement, 12 months probation for CWA False Statements
CWA False Statement Crime: Matthew Brozena/MAB Environmental Services

- MAB is a Contract Operator for private wastewater treatment plants
- Brozena directed employees to pour out samples that appeared to look non-compliant
- March 2017: Brozena sentenced to six months home confinement, three years probation, $100,000 fine
- Employees Craft, Wetzel and Fritz were also charged, received 2-3 years probation
- MAB was sentenced to five years probation, $50,000 fine
SDWA False Statement Crime: Richard Sparks/Scott Beckmann, Stover, Missouri

- Sparks was the superintendent of Stover; Beckmann was the mayor
- July 2007: Sparks certified to MDNR that he took lead and copper samples - one location was vacant and w/o water; added chlorine to coliform samples
- December 2007: Mayor knew Sparks was adding chlorine; lied to EPA agent and MDNR
- August 2010: Sparks sentenced to two months home confinement, five years probation, $5,000
- March 2011: Beckmann convicted of False Statement; Misprision of a Felony
- December 2011: Sentenced to five months incarceration, five years probation, $10,000
- Convicted under 18 USC 1001
SDWA False Statement Crime: Philip Kraus, Dolton, Illinois

- Dolton, Illinois, purchases water from Chicago
- January 2008-August 2013: Kraus certified that he took coliform and chlorine residual samples from all required locations, but only took samples from one or a few locations
- October 2012: Sentenced to three months imprisonment, $5,000 fine
- Convicted under 18 USC 1001
SDWA Mail Fraud Crime:
Linda Knox/If It’s Water&More

- Knox operated a company responsible for sampling at systems across western North Carolina
- 2005-2010: Knox claimed to take samples, but did not take any
- Sentenced to 33 months imprisonment and three years probation, pay $22,000 restitution
- Convicted under 18 USC 1341
SDWA Underground Injection Control Crime: Jacam Chemicals, LLC, Sterling, Kansas

- Disposed of hazardous waste in a well permitted for brine
- Charged with Willful Violation of UIC Program under SDWA, 42 USC 300h-2(b) and RCRA disposal, 42 USC 6928(d)(2)(B)
- December 2015: Company sentenced to $1 million fine
Is it fraud or not?

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QUESTIONS?