

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:

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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?

