

ETHICS

- **Presenter:**
- **Detective Jan Erlandson**
- **Michigan Department of Natural Resources**
- **Environmental Investigation Section**
- **350 Ottawa Avenue N.W.**
- **Grand Rapids, Michigan 49503**

Program Overview

Define Ethics

Why is Ethical Behavior Important

Define Laboratory Fraud and Improper

Clearly identify what constitutes unethical behavior and the penalties that accompany such behavior.

Consequences of Improper Practices

Identify the employees' responsibility

Identify the employers' responsibility

Examples of Improper Practices

DEFINITION OF ETHICS

- plural [noun](#) 1. (used with a singular or plural verb) a system of moral principles: the ethics of a [culture](#).
- 2. the rules of conduct recognized in respect to a particular class of human actions or a particular group, culture, etc.: medical ethics; Christian ethics.
- 3. moral principles, as of an individual: His ethics forbade betrayal of a confidence.
- 4. (usually used with a singular verb) that branch of philosophy dealing with values relating to human conduct, with respect to the rightness and wrongness of certain actions and to the goodness and badness of the motives and ends of such actions.
- [DICTIONARY.COM](#)

DEFINITION

- Ethics Defined
- -- A system of moral principles governing the appropriate conduct for a person or group
- -- Doing the right thing
- -- Being honest and straightforward not lying or cheating

WHY IS ETHICAL BEHAVIOR IMPORTANT?

Your personal reputation and the reputation of your organization or business depends upon it

Decisions we make as environmental professionals affect the environment and the lives of others

Acting ethically can enrich your work life as well as your home life

The penalties for misconduct for you and your organization can be substantial



Definition of Improper Practices

A scientifically unsound or technically unjustified omission, manipulation, or alteration of procedures or data that bypasses the required quality control parameters, making the results appear acceptable.

Example of IMPROPER PRACTICES

- Village of Sparta/Kent County.
- The chlorine residual meter could not test the required concentration level to achieve the data that had been reported to MDEQ. It was not working though test results were being sent to WRD.
- During interviews it is revealed that the chlorine residual testing has been falsified starting ten (10) years ago. The Chlorine meter in question was new in 2009, but it was the same model as the WWTP previously had. The new meter did not work for chlorine readings either.

- DEQ testing of the chlorine residual reveals high amounts of chlorine being discharged to the river that are above the permit limit
- Chlorine analysis is required in the operating permit. An employee was asked about the blank spot where the chlorine analysis would have been placed on the DMR. The employee said the chlorine meter had not worked and another employee told him the chlorine results always fell between the allowable parameters which is 0.10 -0.013 so false analysis numbers were placed on the DMR.

Definition of Laboratory Fraud

The **deliberate falsification** of analytical or quality assurance results, where failed method requirements are made to appear acceptable during reporting.

The **intentional** recording or reporting of incorrect Information

An **intentional** gross deviation from method specified analytical practices, combined with the intent to conceal the deviation.

Why Talk about Improper Laboratory Practices and Fraud

- The Environmental Protection Agency (EPA) Criminal Investigation Division has been and is conducting laboratory examinations for possibility of fraud or improper work practices.
- Michigan Department of Environmental (MDEQ) regulatory staff have also assisted in providing information and participating on inspections/search warrants.
- Usually their information comes from disgruntled employees: ex-wives/husbands (we love those), citizen who observes something, garbage companies, dumpster divers etc. Also from regulatory inspections.

- MDEQ WRD has been paying more attention to the quality of the data being reported on the DMR.
- WHY DO YOU ASK?
- Think back to the example previously given.
- Improper practice or laboratory fraud?

TWO IMPORTANT REASONS

- 1. DEQ WRD makes permitting and other program decisions based on the data submitted by the permittees.
- 2. “Methods Update Rule”. The EPA promulgated the development and implementation of Quality Assurance/Quality Control (QA/QC) procedures for analytes that don’t already have QA/QC procedures associated with the test method(s) being used.

Areas of Concern

- _ Data manipulation
- – Failure to follow SOPs/reference methods
- – Falsifying existing data
- – Improper calibration
- – Inappropriate manual integrations
- – Overwriting files: peak shaving, juicing/peak enhancing, deleting
- – Inadequate training
- – Inappropriate collection process
- – Incomplete record keeping

AREAS OF CONCERN

- – No demonstration of competency
- – No requirement for collector
- – Reporting data for samples not analyzed
- _ Mislabeled sample

AND FINALLY

- _Retention times not assured
- – Sample integrity unknown
- – Selective use of QC data
- – Sequencing analysis
- – Spiking samples after preparation
- – Time travel (changing times and dates)

What is the Difference Between Fraud and an Improper Practice?

Fraud is purposeful and **intentional**

Fraud is not a mistake

Fraud is an **intentional** misrepresentation of lab data to hide known or potential problems

Fraud makes data look better than it really is, with the **intent** to deceive

Sometimes the difference between fraud, improper practice and an honest mistake is simply lack of proper documentation

But the burden falls on the laboratory to prove this. Then this is reflected on all documents presented after that.

UNDER FEDERAL STATUTES

- Some Possible Legal Actions
- Suspension or Debarment
- Civil Prosecution
- Criminal Prosecution
- Regulations or Statutes that may be used for Fraud Prosecution
- False Claims - 18 U.S.C. 287
- False Statements - 18 U.S.C. 1001
- Mail Fraud - 18 U.S.C. 1341
- Wire Fraud - 18 U.S.C. 1343
- Conspiracy - 18 U.S.C. 371
- Misprision (Concealment) of Felony - 18 U.S.C. 4
- Obstruction of Justice - 18 U.S.C. 1505

FEDERAL PENALTIES

- Penalties for Conviction of Fraud
- to prison \$500,000 2 False Statements - up to 5 Years prison and/or \$500,000 fine
- Mail Fraud - up to 5 Years prison and/or \$500,000 fine
- Wire Fraud - up to 5 Years prison and/or \$500,000 fine
- Conspiracy - up to 5 Years prison and/or \$500,000 fine
- Concealment of Felony - up to 3 Years and/or \$500,000 fine
- Obstruction of Justice - up to 5 Years prison and/or \$500,000 fine

Michigan statutes

- **THE MICHIGAN PENAL CODE (EXCERPT)**
Act 328 of 1931

750.249 Forgery of records and other instruments; uttering and publishing; exception. Sec. 249.

- (1) A person who utters and publishes as true a false, forged, altered, or counterfeit record, instrument, or other writing listed in section 248 knowing it to be false, altered, forged, or counterfeit with intent to injure or defraud is guilty of a felony punishable by imprisonment for not more than 14 years.

Fraud Prevention

- Zero Tolerance – fraud is grounds for immediate dismissal
- Be Proactive
- Develop a Laboratory Data Integrity Program Plan
- Develop a Code of Conduct and/or Ethics Agreement
- Write SOPs (manual integration, use of electronic audit functions, data review criteria)

They DID NOT DO THAT



LABORATORY RESPONSIBILITIES

- Continuously monitor data on a periodic but random basis data audits
- Provide clear guidance and policies for ethical behavior code of conduct statement signed yearly
- Provide ongoing training to employees
- Perform confidential investigations if a problem is detected.
- Notify clients and reissue reports if data is negatively impacted.
- Eliminate undue pressure on analysts Provide mechanism for confidential reporting of abuse without recrimination – whistle blower policy

EMPLOYEES RESPONSIBILITIES

- Uphold the ethics policy and practices as
 - demonstrated in their daily conduct.
- Seek help when the proper course of action is
 - unclear or unknown to them.
- Remain alert and sensitive to situations that could result in actions by any employee that are improper, illegal, unethical, or otherwise in violation of the ethics policy and practices.
- Counsel fellow employees when it appears that they are in danger of violating the ethics policy and practices.
- Report violations of the ethics policy and practices to their supervisor.

- How Do I Know a Practice is Improper
- Does it violate policy or procedure, SOP or QAPP
- Mom Test – would mom approve
- Would an auditor approve
- Gut check – Do I really feel this is right
- Would my son or daughter be proud
- Am I doing this so I can leave early
- Would my supervisor, lab director or
- QA manager disapprove

EXAMPLE OF POOR LABORATORY SAFETY PRACTICES #1

- On June 24, 2013 a fire started at Drug and Laboratory Disposal (DALD) 331 Broad Street, Plainwell, Michigan.
- At the time of the initial response, it was determined that an employee had been working with a chemical sodiumborohydride. The chemical is highly reactive with water. The employee had been in the process of treating the waste by using water, mixing the sodiumborohydride and then cutting the reactivity by using hydrochloric acid.
- WAS THERE A PROBLEM HERE?

RESULTS













WHY DO IMPROPER PRACTICES OCCUR?

- **TO MAKE QC PASS! * (this is WRONG!)**
- Bench Reasons:
 - to avoid re-running sample
 - to avoid instrument maintenance
 - avoid missing sample holding times
 - to avoid getting in trouble with boss
- Management Reasons:
 - to avoid looking bad to upper management
 - to avoid financial penalties on contract
 - to please the client

- INCOMPETENT
- LAZY
- DISGRUNTLED

2ND EXAMPLE OF FRAUD

This time by a customer of the wastewater facility

- An Industrial Pretreatment Program Coordinator of a major county wastewater management system received an anonymous tip that a company was bringing in a load of "County Storm Water" that was not storm water but petroleum waste. The county took samples and the samples did return high in gasoline and diesel.
- The customer is not permitted to bring this type of waste to the WWTP or is the WWTP permitted to accept or discharge to the waters of the state. Also all information on manifest on type of waste was an incorrect falsified document.

- The Customer had been delivering thousands of gallons of petroleum contact water under the guise of storm water.
- The county was trusting and had no issues with the customer previously so there was no reason to question any of their practices.
- But the problem was the waste water facility was not permitted by MDEQ to accept petroleum contact water because it is considered a liquid hazardous waste.
- Also the cost of removal and disposal of liquid hazardous waste far exceeds the cost of just liquid industrial waste such as storm water.

- MDNR was contacted and a criminal complaint was opened against the company and the driver.
- Numerous interviews were conducted.
- Records were seized.
- The investigation was concluded and the report was sent to the county prosecutor for criminal charges.

CHARGE #1

- A discharge of a hazardous substance into state waters, violation of the Natural Resources and Environmental Protection Act, Part 31 Water Resources Protection, **FELONY/2-years and \$2,500-\$25,000 per violation for each DAY of unlawful discharge.**

2nd POSSIBLE CHARGE

- **750.248 Making, altering, forging, or counterfeiting public record; intent; felony; penalty; exception; venue.**
- 1) A person who falsely makes, alters, forges, or counterfeits a public record, or a certificate, return, or attestation of a clerk of a court, register of deeds, notary public, township clerk, or any other public officer, in relation to a matter in which the certificate, return, or attestation may be received as legal proof, or a charter, will, testament, bond, writing obligatory, letter of attorney, policy of insurance, bill of lading, bill of exchange, promissory note, or an order, acquaintance of discharge for money or other property, or a waiver, release, claim or demand, or an acceptance of a bill of exchange, or indorsement, or assignment of a bill of exchange or promissory note for the payment of money, or an accountable receipt for money, goods, or other property with intent to injure or defraud another person is guilty of a **felony punishable by imprisonment for not more than 14 years.**

ISSUED CHARGE #2

- **MCL 769.11**
- **769.11 Punishment for subsequent felony following conviction of 2 or more felonies; sentence for term of years considered indeterminate sentence; use of conviction to enhance sentence prohibited.**

PLEA NEGOTIATIONS

- On January 30, 2015, the customer was sentenced through Muskegon County Circuit Court to 21 days in jail, and \$1168 in fines and costs for violation of the Natural Resources and Environmental Protection, Part 31 did discharge directly a substance: Petroleum Contact Water, into Muskegon Lake and at the time he knew or should of known was contrary to Part 31.
- Thee was also additional court costs plus the costs of hiring his own attorney.

REMEMBER

- An Ounce of PREVENTION:
- DOCUMENT, DOCUMENT, DOCUMENT!!- An 'outsider'
 - should be able to re-create the entire analytical
 - process, including data review decisions
- Police Academies teach “ IF IT IS NOT IN THE REPORT IT DID NOT HAPPEN”!!!!

- Talk with your Supervisor or Lab Chief if you
 - have doubts or questions
- Follow the method / SOP as written- (or revise the SOP as necessary)

- If you miss a holding time or make a mistake, be honest about it. Covering it up can take it from honest mistake or fraud.
- Don't be clever be smart, in the long run it takes less effort to just follow policy than to find clever ways to circumvent it .
- QC is used to determine sample, equipment, or method issues, not how good you are at your job.
- Whatever the problem, it is not worth losing your job or
- going to jail!
- Talk with your Supervisor

TO BE CLEAR

- It is OK to make a mistake
- It is NOT OK to hide that mistake
- It is OK to have QC out of limits
- It is NOT OK to hide QC that is out of limits or make it appear to be within limits when it is not.
- There are potentially severe consequences for scientific misconduct that can affect you and your lab.
- Good communication can be key to prevention of these problems

QUICK REVIEW

- Lab Fraud / Scientific Misconduct
- Has intent behind it
- Is not an accident or mistake
- Is not acceptable for any reason
- Can destroy careers
- Prevention
- DOCUMENT / Communicate problems immediately
- Take time to do it right!
- Don't take short cuts
- Follow the SOP / Method
- Expect some QC to fail on occasion

Examples of Improper Lab Practices

- Improper Preparation Practices
 - Not prepping a PT sample before analysis
 - Not prepping calibration standards when required by method
- Treating Batch QC Different than Samples
 - Not treating batch QC samples in the same way as the rest of the batch
 - Not extracting or digesting method blank or laboratory control sample
- Improper Calibration Procedures
 - Using calibration procedures that are not allowed by the required method

- Data Deletion
- Removal of existing data to give the appearance of non detect results
- Improper Use of QC Data
 - Selective use of QC data
 - Running extra QC in case some results don't 'work out' and not using the 'bad' data
 - Running QC samples without documented evaluation criteria

- Improper Analytical Procedures
- Data Modification / Manipulation / Selection modification of existing data to represent values different from actual
- Examples of Dry Labbing (fabrication)
- Changing a computer generated report to represent sample results which were never generated

CONCLUSION

- You the analyst, operator, etc. are ultimately the person responsible for the analytical reports submitted to the state
- Remember: garbage in garbage out



- If it can be proven that the employee was operating under the direct order of management then the employee would be called as a witness verses a defendant
- BUT again it falls onto the employee

QUESTIONS? You do not want
to see me!!!

