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SOLUTIONS YOU CAN COUNT ON. PEOPLE YOU CAN TRUST.

DATA DEFENSIBILITY

The Data User's Guide to Producing Legally Defensible Environmental Data

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Civil/Environmental Engineer

Defensible Data

- Environmental data that can hold up to scrutiny of another potential user such as regulator, client, consultant, or judge

- Data is usable for the purpose of use now and for potential future uses

- Data are useable for decisions made relative to protection of human health and the environment

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Overview

Define → Plan → Prepare → Execute → Review → Manage

What is Your Final Goal?

Short
Term

Long
Term

To reach your "Final Goal", the supporting data will have to be measured in both <u>extent</u> and <u>quality</u>.

Definition of Defensible Data for this Project

Define → Plan → Prepare → Execute → Review → Manage

Developing Data Quality Objectives

Step 1: State the Problem

Step 2: Identify the Decision

Step 3: Identify Information Inputs

Step 4: Define the Boundaries of the Study

Step 5: Develop the Analytical Approach

Step 6: Specify the Performance or Acceptance Criteria

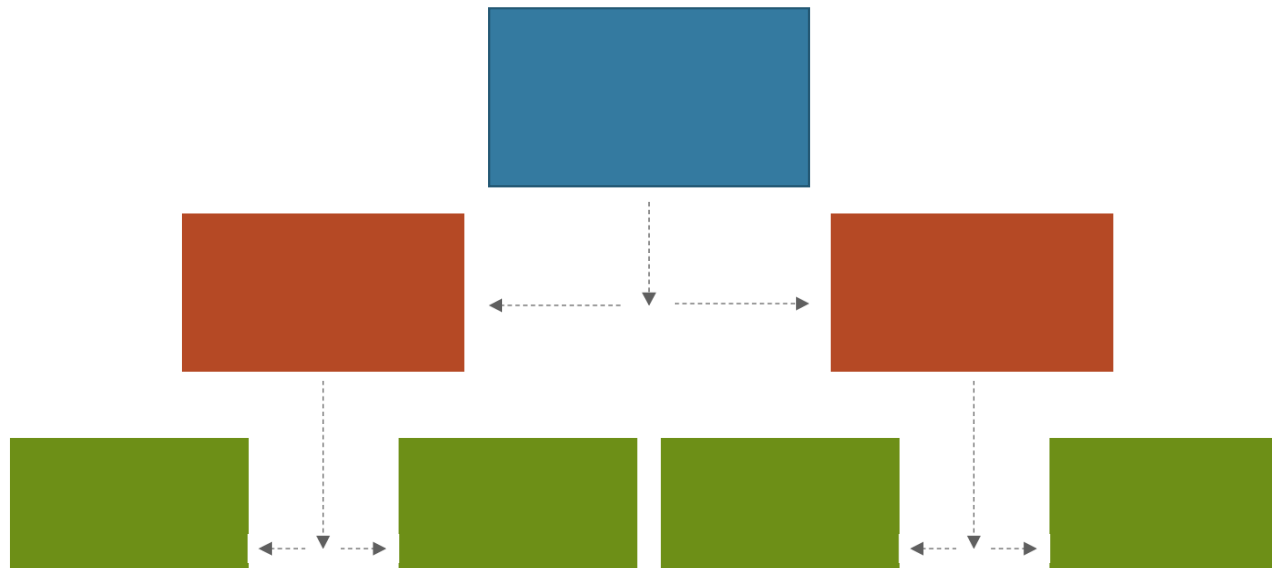Step 7: Develop the Plan for Obtaining Data

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Planning Defensible Data

Define → Plan → Prepare → Execute → Review → Manage

Bad Idea – Spending money without a plan

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Choose Your Resources Wisely

Organizational Chart

Contracting with the Laboratory

- Certifications
- Capabilities
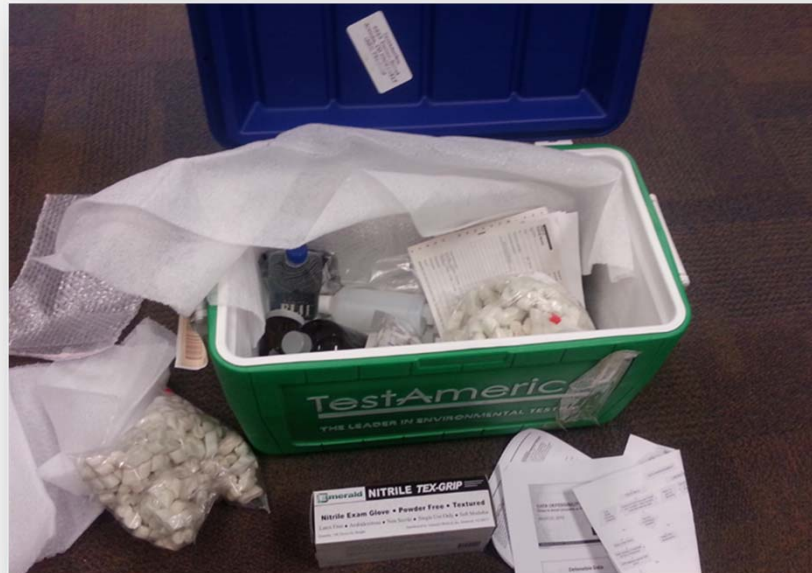- Capacities
- Methodology
- Reporting
- Limits

Plans for the Future – Looking Ahead

- QAPP – Quality Assurance Project Plan
- DMP – Data Management Plan
- SAP – Sampling and Analysis Plan
- SMP – Sample Management Plan
- DQO – Data Quality Objectives

Preparing

Define → Plan → Prepare → Execute → Review → Manage

Laboratory Preparation

Field Preparation

- Collecting Methods
- Collection Order
- Decontamination
- Quality Assurance Samples
- Documentation
- Sample Custody
- Packing/Shipping

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Quality Assurance Samples

HOW MANY SHOULD I COLLECT??

Check your sample plans!

RULE OF THUMB

QA Sample	How Many	Percentage
Field Duplicate	1 per 10 or 20	10%/5%
Field Blank	1 per day	--
Equipment Blank	1 per day	--
Trip Blank	1 per cooler with VOCs	--
MS/MSD	1 per 20	5%

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Chain-of-Custody

Tools to help you make your data defensible

Trihydro's Generic CoC

Collecting/Analyzing Defensible Data

Define → Plan → Prepare → Execute → Review → Manage

REJECTED

BAD DATA

Bad Idea – Collecting data that is not usable

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Why Validate Data?

| Define | Plan | Prepare | Execute | Review | Manage |

Choosing Validation Levels

Tiered/Levels of Validation
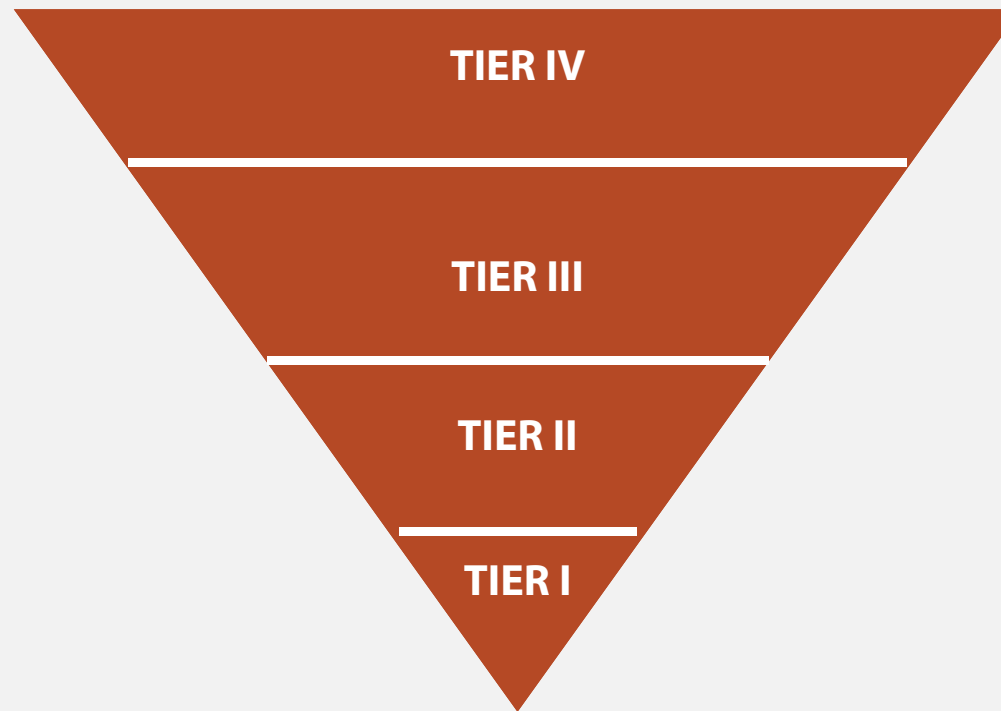
Maintaining Defensible Data

Define	Plan	Prepare	Execute	Review	Manage

- Use a database to manage your data
- Compete validations
- Check produced reports, limits, and constituents
- Understand what data are qualified and why
- Check against previous data
- Work with laboratory and your team to make changes, as needed
- Read your data reports and validation reports and ask questions

Project DIRECT

Username: chiegel

Password:

>> LOGIN

Request access here!

Forgot your password?

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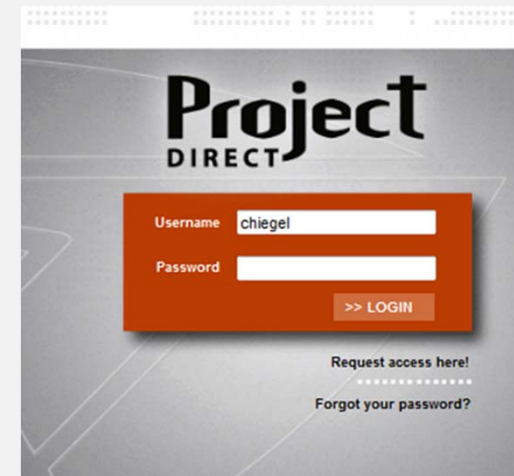
I Messed Up! What Do I Do?

- Don't panic
- Don't cover-up or hide your mistake
- Be Ethical

Defensible Data

Define → Plan → Prepare → Execute → Review → Manage

Questions?

WHAT WHY WHERE WHEN WHO HOW