Ensuring Competent Sample Collection

Presented by:
Marlene Moore
Advanced Systems, Inc.
mmoore@advancedsys.com

Objectives

- Selection of field sampling and collection organizations
- Evaluate and determine a competent organization
- Meeting proposed and future requirements for sample collection and field measurement organizations

What if no competency in the field?

- Data defensibility in jeopardy
  - Client complaints
  - Regulatory questioning
- EPA Competency Policy pushing for more assurance –
  - Where EPA funding is involved
  - Need for QA due to recent integrity problems and quality problems identified

Demonstrate Competency

- Client audit/review process (second party)
- Oversight by project officer (government oversight)
- Accreditation – following consensus process for recognition and oversight
  - Third party
  - State or regulatory program
  - Accreditation body process with input from all stakeholders

http://www.epa.gov/fem/pdfs/fem-lab-competency-policy.pdf

Management System

- Elements for competency defined
- How does the organization communicate?
- How is change managed?
  - When changes occur – Data is affected
  - Is the change in the data due to a process change or an environmental change?
- Do you prevent problems or react?
  - Reaction results in a risk that a competent decision will not be made

Document Control

- Method of communication
- Ensures consistency of implementation
  - For others to follow
  - So others know how it was done
- Provides authorization
  - Proper way to perform sampling and field measurements
- Provides historical reconstruction
  - What changed when
  - Helps identify possible process variability

Records Control

- Demonstrates what was completed
- Provides method for documenting observations
- Management
  - Storage, retrieval, integrity, available
  - Supports conclusions and process used for sampling and testing
- Defensibility if handled and managed

Internal Audit

- Answers questions
  - Do we know what we are doing?
  - How well are our systems functioning?
  - Are the processes efficient and effective?
  - Are any changes needed?
- Provides mechanism for improvements
- Don't wait for the regulatory or external auditor – find it yourself

Corrective Action

- Ensure problems or concerns are fixed permanently
- Shows a process and record to fix problems and ensure they do not repeat
- Procedure, records
  - Investigate
  - Cause determination
  - Determine corrective action
  - Implement
  - Monitor
  - Evaluate

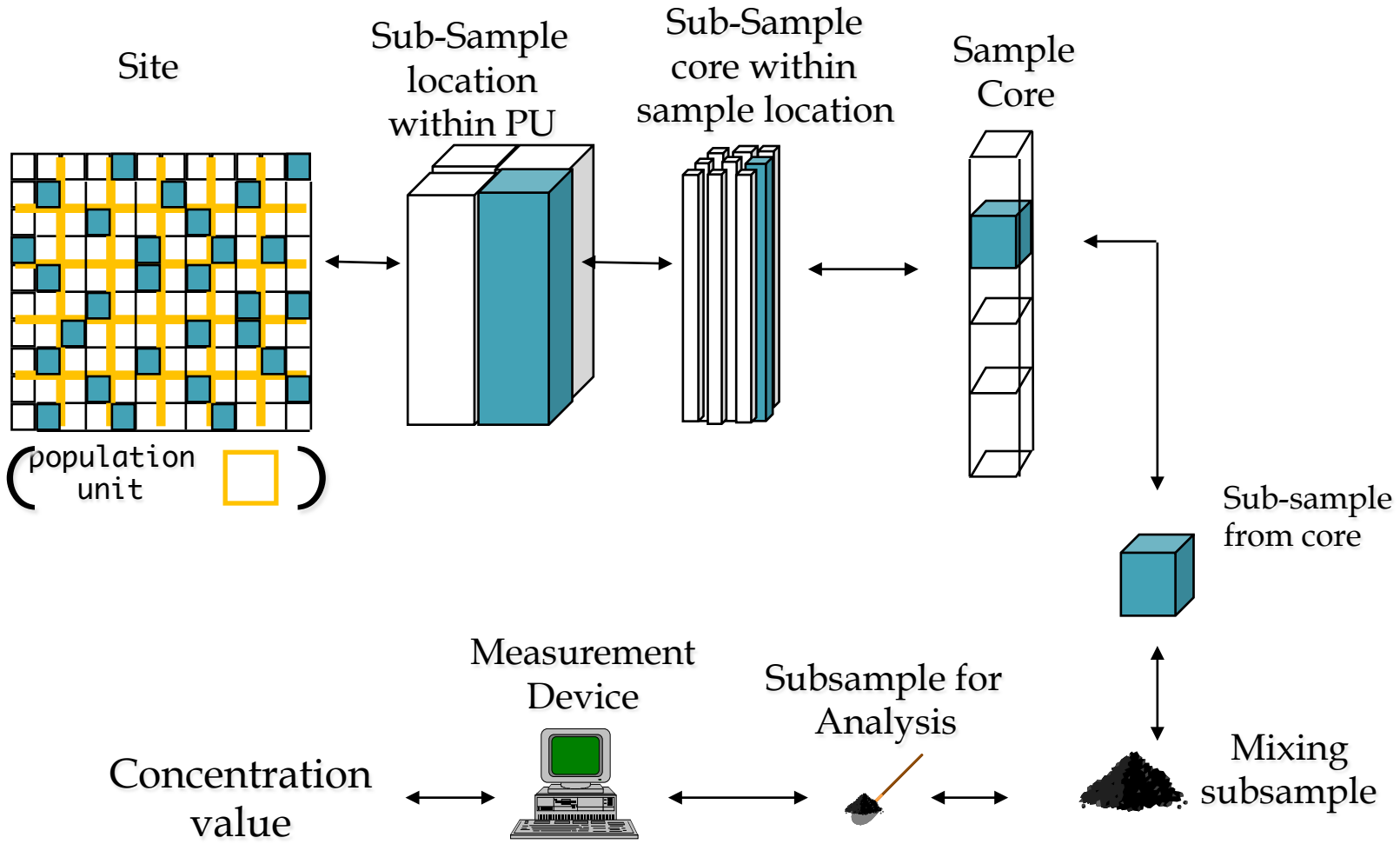
Management System Elements

- What else do you need to do to manage to ensure technical competence?
  - TNI standard presents these additional requirements
  - The emphasis is that management is accountable for all aspects of the operation to ensure competency is maintained
  - Management must change as client needs change

Technical Requirements

- Organizations
  - Field sampling and measurement organizations
- Testing and measurement methods
  - Program, permit, regulatory requirements
- Sampling design and planning
  - Quality Assurance Project Planning
  - Sampling Plans
  - Project Plans
  - However named….

Variability in Data



Equipment Selection

- More than
  - Finding a spoon and bucket
  - Taking some water or dirt from a location
  - Filling a jar
- What is it?
  - More than we can cover is this presentation
    - One example
      - www.itrcweb.org/ISM-1
  - www.clu-in.org

Personnel Qualifications

- Integrity, trustworthy -
  - No-one available to "watch" them do work
- Technical competence
  - And must like the outdoors
  - What is needed
    - Integrity
    - Knowledge
    - Education
    - Training
    - Personnel certification
    - Experience
    - Safety and health

Field Measurement Qualifiers

Data Qualifiers (Flags)	Use only defined flag codes and record on data form in appropriate field. K = Measurement not attempted or not recorded. Q = Failed quality control check; remeasurement not possible. U = Suspect measurement; remeasurement not possible. F*n* = Miscellaneous flags (*n* = 1, 2, etc.) assigned by a field team during a particular sampling visit (also used for qualifying samples). Explain reason for using each flag in comments section on data form.

Sample Collection Qualifiers

Sample Collection and Tracking	
Sample Qualifiers (Flags)	Use only defined flag codes and record on sample collection form in appropriate field. K = Sample not collected or lost before shipment; resampling not possible. U = Suspect sample (e.g., possible contamination, does not meet minimum acceptability requirements, or collected by non-standard procedure). F*n* = Miscellaneous flags (*n*=1, 2, etc.) assigned by a field team during a particular sampling visit (also used for field measurements). Explain reason for using flags in "Comments" on sample collection form.

The Question

- To be accredited or not to be accredited – That is the Question!
- Whether tis nobler to sample and test in the field without
  - Demonstrated technical competence
  - Assessment by outside organizations
  - Procedures and records to ensure data defensibility

  OR WITH these slings of fortunes thus to succeed and be competent!!

Accreditation Process – NEFAP Organizational Qualification

- Accreditation Process – Single Site Organization
  - ✓ Application review
  - ✓ Management system documentation verification
  - ✓ Application compliance verification – field assessment
- Accreditation Process – Multi-Site Organizations
  - ✓ Employs the "Umbrella Approach"
  - ✓ Common organizational management system
  - ✓ AB selects facilities for assessment verification
  - ✓ Field assessments of management system
  - ✓ Technical method and procedure verification

Data Defensibility

- Historical reconstruction
- Finding information when requested
- Experts "know" but also need to document
- Proof is in the records
  - Not always supported by verbal statements
- How do you prove the quality of your data?

Streamlines Process

- Flow chart the process and look for efficiency
  - Duplication of effort
- Complexity is what you make it
- System not planned, but happened
- Resources available when needed

Next Steps…

- If you are a FSMO – Select an Accreditation Body and apply!!!!
- If you are doing field sampling and testing – Review the FOG and evaluate your operations and be ready!
- If you are an interested Accreditation Body, contact TNI and we can get you an application…

VISIT TNI website: www.nelac-institute.org

The Future - is now…

Recognized ABs continue to accept applications

TNI Field Activities Committee completed first Standard revision (2012 version)

AB recognition by TNI

Four recognized ABs

FSMOs are accredited

Louisiana accepts third party accreditation for stack sampling and testing FSMOs (LELAP)

How do you select an FSMO?

- Place the following in your contract:

"*The FSMO must be accredited to the TNI Field Sampling and Measurement Organization Standard (current version) by a TNI recognized NEFAP accreditation body. The scope of accreditation for the FSMO must include the following field sampling and testing matrix and technology(s)…*"

  - *Fill in the matrix and technologies you require for your project, permit or regulatory program.*

Accreditation to the TNI's Field Activity Standard provides data of known and documented quality from a technically competent FSMO that meets the U.S. EPA FOG elements and is easily specified in contracts.