



# 2003 AFCEE Technology Transfer Workshop

San Antonio, Texas

*Promoting Readiness through Environmental Stewardship*

# AFCEE LABORATORY AUDIT PROGRAM

**Edward J. Brown**  
**Science and Engineering Division**  
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Air Force Real Property Agency



# ***AFCEE AUDIT PROGRAM***

- **Program Guidance based on:**
  
- **Technical Services Quality Assurance Document**
  - **Version 1.0**
  
  - **August 1996**



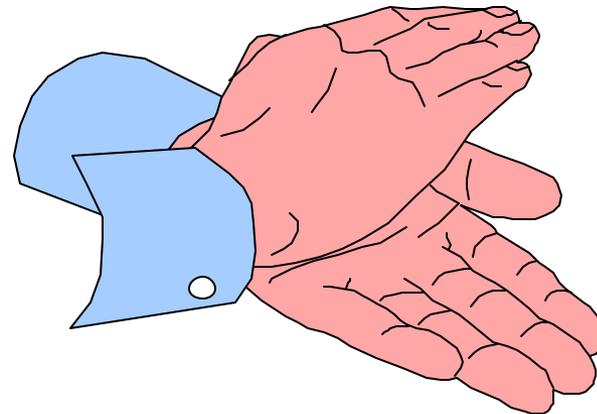
# ***PRESENTATION OVERVIEW***

- **Types of Evaluation**
  - **Prime contractor oversight**
  - **Evaluation for cause**
  - **Sampling system**
  - **On-site laboratory audit**
- **Evaluation Process**
  - **“Snap shot in time”**
    - **How it starts**



# ***PRESENTATION OVERVIEW***

- **After the audit**
  - **Finding good and bad stuff**
  - **Summary and wrap up**





# ***PRIME CONTRACTOR AUDIT***

- **Objective**
  - **Data to support decision-making**
  - **Comply with QC criteria**
  - **ID corrective action areas**
  
- **Overview**
  - **Evaluate laboratory capabilities**
  - **Over-site of field activities**



# ***PRIME CONTRACTOR AUDIT***

- **On-site Evaluation**
  - **QA manual for procurement and oversight**
  - **Laboratory assessment technique**
  - **Personnel Qualifications**
  - **Laboratory Communication**
- **Performance Evaluation Studies**
- **Sampling Systems**



# ***EVALUATION FOR CAUSE***

- **Objective:**
  - **“Cause” – Electronic data system audit**
  - **Authenticity of data**
  - **Good Automated Laboratory Practices (GALP)**
- **Overview**
  - **Triggered by:**
    - **PE results, on-site evaluation, and investigations**
- **Review electronic media of prime and laboratory**



# ***EVALUATION FOR CAUSE***

- **On-site Evaluation**
  - **SOP for archiving data**
  - **Manual Integration documentation**
  - **System to system data transfer**
  - **Reproducible data**
- **Time and Place**
  - **One to one and one-half days**
  - **Laboratory and/or prime contractor offices**



# ***SAMPLING SYSTEM AUDIT***

- **Objective**
  - **Meets AFCEE criteria in Statements of Work and Field Sampling Plan**
  
- **Overview**
  - **Implement QA/QC plan**
  - **Detailed record keeping**
  - **ID and initiate corrective action**



# ***SAMPLING SYSTEM AUDIT***

- **On-site Evaluation**
  - **Three days**
  - **Areas evaluated:**
    - **Sampling Procedures**
    - **Sample Handling**
    - **Sample Custody**
    - **Field QC Samples**



# ***SAMPLING SYSTEM AUDIT***

- **On-site Evaluation**
  - **Areas evaluated (continued):**
    - **Decontamination procedures**
    - **Waste Handling procedures**
    - **Field analysis**
    - **Record keeping**



# ***LAB EVALUATION PROCESS***

- **General Comments**
  - **“Snap shot in time”**
  - **Must be part of other evaluation tools**
    - **Performance Evaluation Studies**
    - **Staff Interviews**
    - **Standard Operating Procedures**
- **How it starts**



# ***LAB EVALUATION PROCESS***

- **Team Chief Requests ERS Support**
  - **Letter to perform lab audit**
    - **Data quality issues**
    - **New laboratory**
- **ERS initiates request to Team Chief**
  - **Last evaluation over 18 months**
- **AFCEE contacts prime contractor and laboratory**
  - **Coordinates time and type of audit**



# ***LAB EVALUATION PROCESS***

- **Determine Audit Types**
  - **Project-specific – specific methods used in project**
  - **Full System – all methods the lab would use for AFCEE projects**
- **Notification Letter – documentation requirements**
- **Agenda**



# ***LAB EVALUATION PROCESS***

- **How Long**
  - **Full Systems Audit**
    - 2 to 3 days (two chemists)
  
  - **Project-Specific Audit**
    - 1 to 2 days (one chemist)



# ***LAB EVALUATION PROCESS***

- **Who Goes**
  - **ERS Chemists (2)**
    - **SETA/GSE&I support if necessary**
  - **Prime contractor project chemist encouraged to go**
  - **TEAM CHIEFS ALWAYS WELCOME**



# ***LAB ON-SITE EVALUATION***

- **In-briefing**
  - **Current Projects**
  - **Questions about AFCEE QAPP or Project QAPP**
- **Laboratory Tour**
- **Evaluate lab sections**
- **Debriefing of Observations**



# ***LAB ON-SITE EVALUATION***

## **Laboratory Section Evaluation**

- **Sample management and receiving area**
  - **Sample storage**
  - **Sample receipting activities**
  - **Documentation**
  - **Chain-of-custody (internal and external)**
  - **Sample Tracking**



# ***LAB ON-SITE EVALUATION***

## **Analytical Section**

- **Standard Operating Procedures (SOP)**
- **Instrument Calibration (Initial and Continuing)**
- **Standards – traceable, not expired, spiked correctly**
- **Extraction Logs (If appropriate)**
- **QA/QC**
  - **Laboratory Control Sample (Instrument/Batch Control)**



# ***LAB ON-SITE EVALUATION***

## **Analytical Section**

- **QA/QC**
  - **Matrix/Matrix Spike Duplicate (matrix interferences)**
  - **Blanks (contamination)**
  - **Documentation**
  - **Chain-of-custody (internal and external)**
  - **Sample Tracking**



# ***LAB ON-SITE EVALUATION***

## **Analytical Section**

- **Corrective Action Process**
- **Out of Control Event**
  - **“OOPS!!!! It Exceeds Acceptance Criteria”**





# ***LAB ON-SITE EVALUATION***

## **Analytical Section**

- **Corrective Action Process**
  - **Complete Reports**
  - **Manage and QA Approval**
  - **Parameters back in control**
  - **Effected samples identified**



# ***LAB ON-SITE EVALUATION***

## **QA/QC SECTION**

- **Internal Audits**
- **Blind PE or QC samples**
- **Control Charts**
- **Corrective Action Reports**
- **External Audits Responses**
- **Lines of Reporting**



# ***LAB ON-SITE EVALUATION***

## **DATA REVIEW PROCESS**

- **Three levels of review**
- **Reporting and detection limits**
- **Correct methods**
- **Correct analytes**
- **Sample results**
- **Narrative Summary**



# ***LAB ON-SITE EVALUATION***

## **DATA REVIEW PROCESS**

- **Trace sample from point of sample collection to point where data is reported to decision maker.**





# ***LAB ON-SITE EVALUATION***

## **Project Management and Oversight**

- **Prime Contractor**
  - **Communication**
  - **Audit**
  - **Coordination**





# ***LAB ON-SITE EVALUATION***

## **Project Management and Oversight**

- **Laboratory Project Officer**
  - **Lab responsiveness**
  - **Data report completeness**



# ***LAB ON-SITE EVALUATION***

## **Analyst Training Program**

- **Training records**
- **Performance and proficiency documentation**
- **Qualification**



# ***LAB ON-SITE EVALUATION***

## **Certifications**

**Federal**

**State**

**Local**





# ***LAB ON-SITE EVALUATION***

## **AFCEE STAMP OF APPROVAL**

- **No Such AFCEE Animal**
- **No Certification Program**
- **No Approval Program**





# ***LAB ON-SITE EVALUATION***

## **ERS RECOMMENDATIONS**

- **YES**
  - **To receive samples**
- **No**
  - **Not to receive samples**
- **After corrective actions are taken**
  - **If satisfactorily answered**



# ***AFTER THE EVALUATION***

## **AFCEE ACTIONS: Finding the Good and Bad Stuff**

- **Debriefing to laboratory**
- **Write report**
- **Report to Team Chief**
  - **Copy to Prime and Laboratory**
- **Lab submits corrective actions to prime contractor and to team chief**



# ***AFTER THE EVALUATION***

## **FOUR POINTS TO REMEMBER**

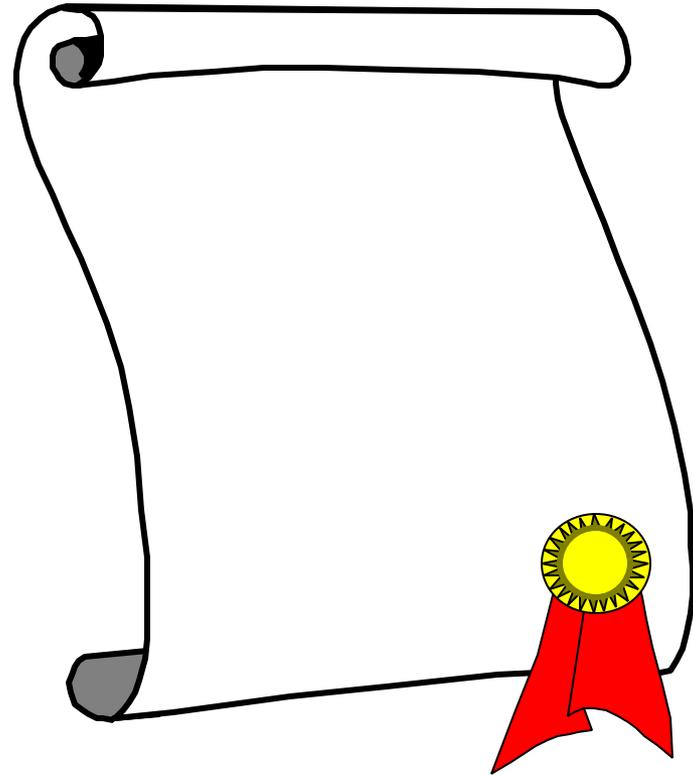
- **ERS Supports Team Chief**
- **Team Chiefs deal with prime contractor**
- **Prime contractor deals with laboratory**



# ***AFTER THE EVALUATION***

## **AFCEE LABORATORY DATA NEEDS**

- **Scientifically Valid**
- **Legally Defensible**
- **Good Quality**





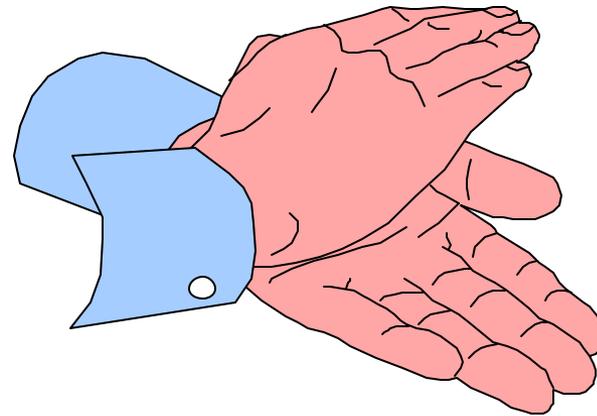
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# ***PRESENTATION SUMMARY***

- **After the audit**
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# ***PRESENTATION MONITOR***



*Promoting Readiness through Environmental Stewardship*



# ***WRAP UP TIME***

## **QUESTIONS ABOUT THE PROGRAM**