



U.S. Department of Energy's Consolidated Audit Program (DOECAP)



George E. Detsis

**Manager, Analytical Services Program
U.S. Department of Energy
Office of Health, Safety and Security**

**Department of Defense
Environmental Monitoring & Data Quality Workshop
La Jolla, California
March 26-29, 2012**

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE MAR 2012		2. REPORT TYPE		3. DATES COVERED 00-00-2012 to 00-00-2012	
4. TITLE AND SUBTITLE U.S. Department of Energy's Consolidated Audit Program (DOECAP)				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Department of Energy, Office of Health, Safety and Security, 1000 Independence Ave. SW, Washington, DC, 20585				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Presented at the 9th Annual DoD Environmental Monitoring and Data Quality (EDMQ) Workshop Held 26-29 March 2012 in La Jolla, CA.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 23	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



Presentation Outline



- Program Overview
- Audit Checklists and Process
- DoD/DOE Joint Quality Assurance Manual
- Audited Laboratories



Findings from DOE's Office of the Inspector General and GAO Reports



Report on the Audit of DOE's Commercial Laboratory Quality Assurance Evaluation Program (June 1995)

- Some laboratories were audited numerous times by a single DOE entity; others were never audited
- Evaluation methods varied significantly from one contractor to another
- Audit results were not shared between contractors

IG and GAO identified that reductions in DOE Auditing of Analytical Laboratory Services was needed



DOECAP Background



- Purpose of the Program
 - Eliminate/minimize audit redundancies
 - Standardize audit methodology, policies and procedures
 - Communicate Lessons Learned
 - Reduce overall Department risks/liabilities
- Involve all DOE line organizations/field operations
- Auditor participants would be DOE federal employees and contractors



DOECAP Mission to Improve





DOECAP Justification



- **Laboratory: DOE Order 414.1, *Quality Assurance***
 - Applies directly to GOCO and commercial laboratories that perform work for the DOE
- **Quality Systems for Analytical Services (QSAS)**
 - Establishes a single, integrated QA program for providers of laboratory services to DOE
 - Based on TNI (NELAC), Chapter 5 (based on ISO 17025) with gray boxes to address DOE specific requirements (radiochemistry, hazardous and radioactive materials management, NDA)
- **TSDF: DOE Order 435.1, *Radioactive Waste Management***
 - Requires that DOE utilize DOE facilities to manage radioactive waste
 - However, if DOE chooses to use a non-DOE waste vendor, DOE must perform an annual qualification audit of the facility



Results of Formalized DOE Auditing Program



37 DOECAP Audits/Fiscal Year

FY11 DOECAP Auditing Activities

26 Analytical Environmental Laboratories

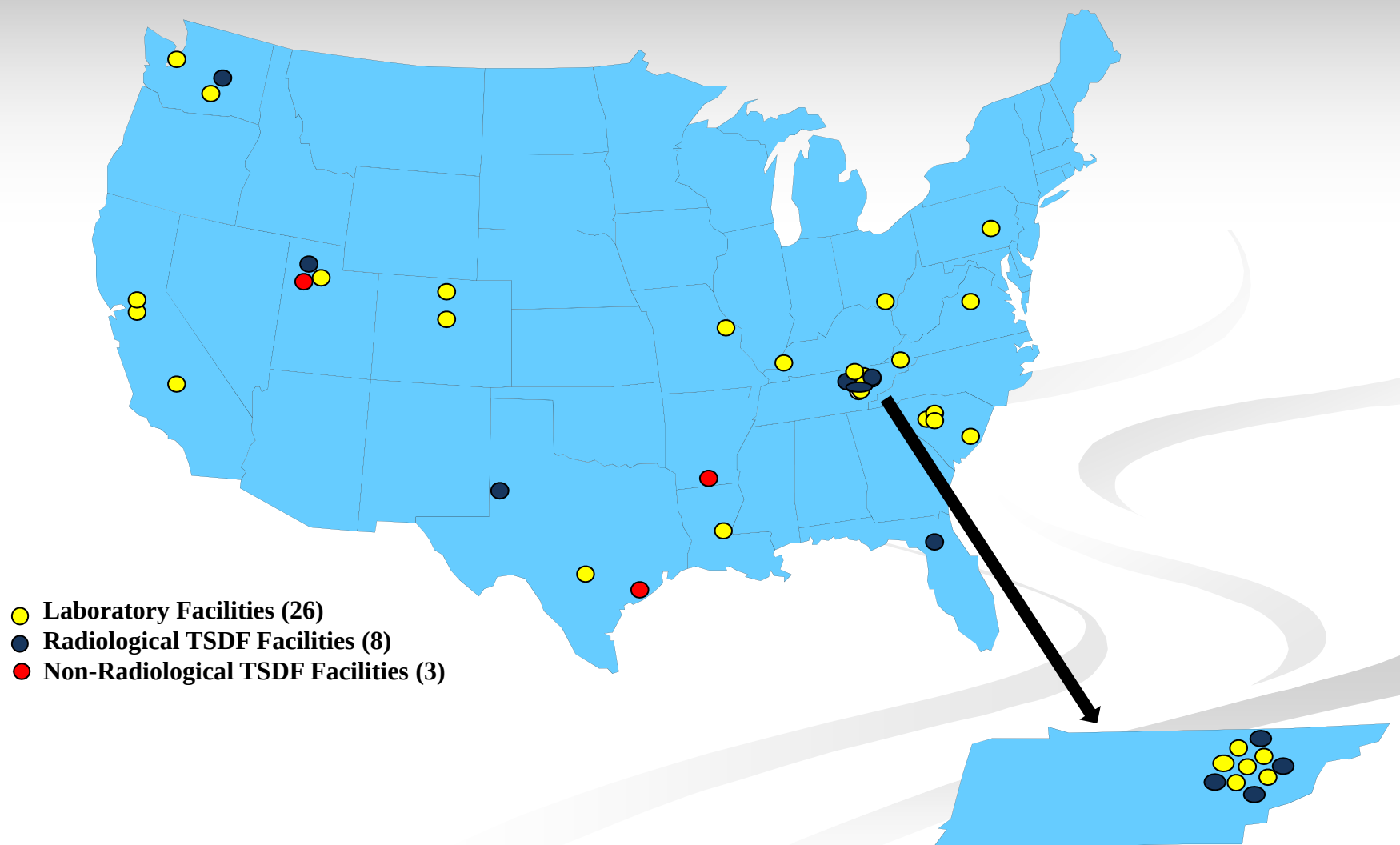
- 22 Commercial
- 4 Government Owned Contractor Operated (GOCO)

11 Treatment, Storage & Disposal Facilities

- 8 Radiological
- 3 Non-radiological



FY11 DOECAP Evaluated Laboratories and TSDFs





Audit Areas



Laboratory

- Quality Assurance & General Laboratory Practices
- Organic Analysis
- Inorganic Analysis
- Radiochemistry Analysis
- Laboratory Information Management Systems/EDD
- Hazardous and Radioactive Materials Management
- Aquatic Toxicity
- Non-Destructive Assay

TSDF

- Quality Assurance
- Sampling and Analytical Data Quality
- Waste Operations
- Environmental Compliance/Permitting
- Radiological Control
- Industrial and Chemical Safety
- Transportation Management



FY 2011 Findings

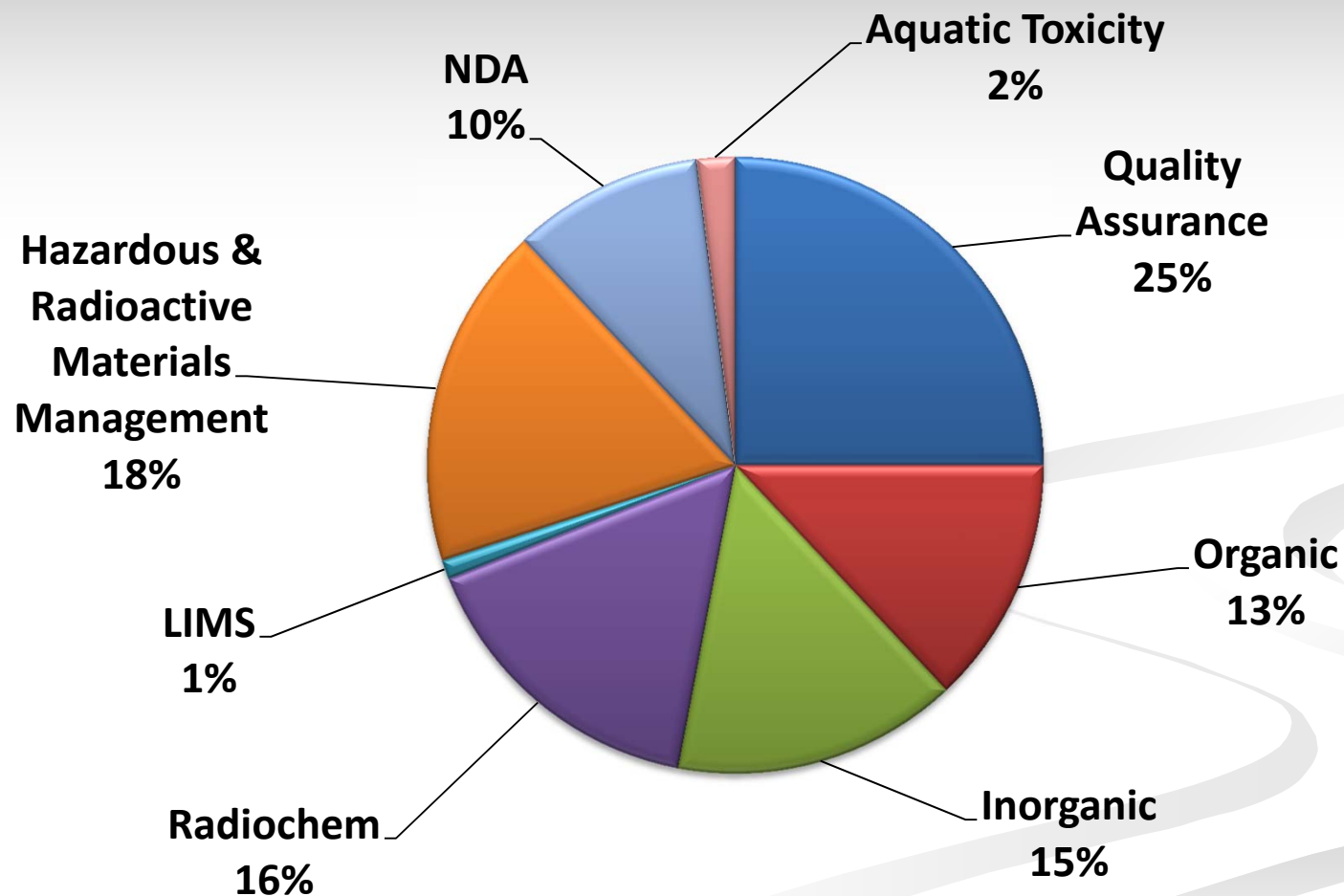


- DOECAP conducted 37 audits in FY2011
- 85% of all FY2010 audit findings were closed during FY2011 audits:
 - 83% of the Lab findings
 - 89% of the TSDF findings
- New Findings Identified Lab & TSDF since 2006:

FY2006 = 269	FY2009 = 277
FY2007 = 374	FY2010 = 227
FY2008 = 216	FY2011 = 215



Percent Distribution of FY 2011 Lab Findings





Common Analytical Laboratory Findings



- Inadequate or incomplete SOP content
- Practices do not match SOP direction
- Proficiency Testing failures (unacceptable/warnings results)
- Training not completed or not documented
 - Demonstrations of Capability (Initial & Continuing)
 - Ethics training
 - LIMS security training
 - Safety and Personal Protective Equipment (PPE) training
 - Radiation control training
- Deficiencies in sample receipt practices, particularly radiological screening practices



Common Analytical Laboratory Findings (cont'd)



- Internal auditing deficiencies
 - None performed
 - Schedule not established or maintained
 - No Corrective Action follow-up
 - Not reported to management
- Calibration or calibration verification deficiencies
- Waste disposal facilities used for waste disposal not adequately evaluated



DoD/DOE Joint Quality Assurance Manual



Quality Systems Manual for Analytical Services

■ DoD Benefits:

- Expands radiochemistry methodologies
- Sample residual and derived waste disposal, and
- Laboratory worker Environmental Health and Safety practices

■ DOE Benefits:

- Expands analytical methods tables

Overall benefit to DoD/DOE is the consolidation of quality and technical requirements



Laboratory Benefits



- Single approach to satisfy the quality and technical requirements of DoD/DOE
- Reduction in preparation time for laboratory audits
- Single Quality Manual that encompasses the DoD/DOE requirements
- Incorporation of current TNI standard and the requirements of DoD/DOE



Fy11 Audited Laboratories DoD/DOE Jointly Audited Laboratories



- *BC Laboratories, Inc., Bakersfield, CA
- *TestAmerica, Inc., Knoxville, TN
- *Shealy Environmental Services, Inc., West Columbia, SC
- *TestAmerica, Inc., St. Louis, MO
- *GEL Laboratories, LLC, Charleston, SC
- *TestAmerica, Inc., Arvada, CO
- *TestAmerica, Inc., Richland, WA
- *Davis and Floyd, Inc., Greenwood, SC
- *ALS Laboratory Group, Fort Collins, CO
- *American Radiation Services, Inc., Port Allen, LA
- *ALS Laboratory Group, Salt Lake City, UT



Fy11 Audited Laboratories

DOE Audited Laboratories



Eberline Analytical Corporation, Oak Ridge, TN

B&W Radioisotope & Analytical Chemistry Laboratory, Lynchburg, VA

B&W Y-12 Analytical Chemistry Organization, Oak Ridge, TN

Radiological Materials Analysis Laboratory,

ORNL UT-Battelle, LLC, Oak Ridge, TN

Portsmouth Analytical Services, Piketon, OH

Caltest Analytical Laboratory, Napa, CA

Paducah Analytical Services, Paducah, KY



Fy11 Audited Laboratories (cont)



Eberline Analytical Corporation, Richmond, CA

Materials & Chemistry Laboratory, Inc., Oak Ridge, TN

Southwest Research Institute, San Antonio, TX

Lionville Laboratory, Inc., Exton, PA

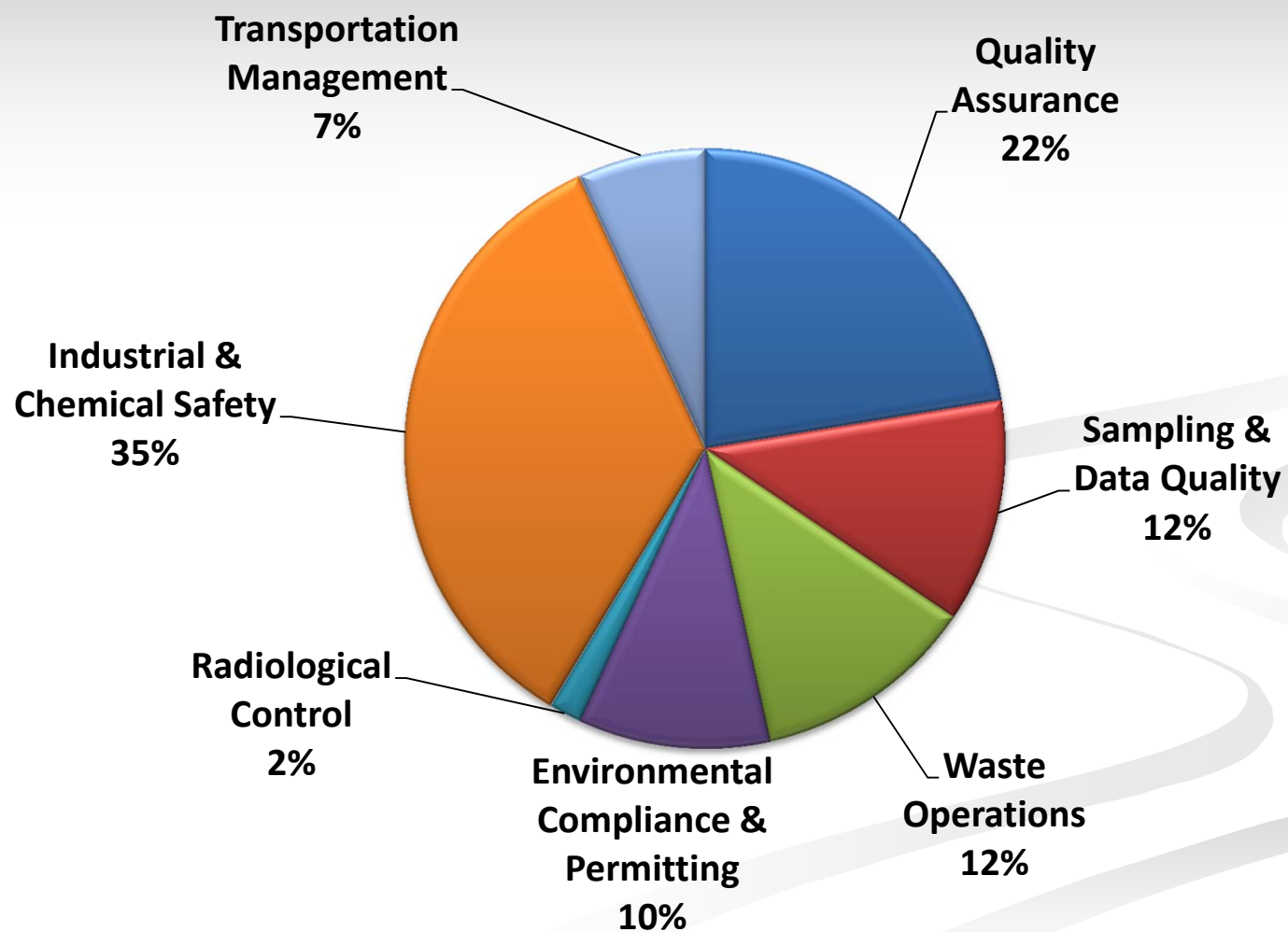
Shealy Consulting, LLC, Lexington, SC

Oak Ridge Institute for Science & Education, Oak Ridge, TN

CEBAM Analytical, Inc., Bothell, WA



Percent Distribution of FY 2011 TSDF Findings





Common TSDF Findings



- Incomplete or inadequate SOP content
- Practices do not match SOP direction
- Inadequate personnel training
- Incomplete training documentation and records
- Inadequate labeling and posting (containers, placards, safety, etc.)
- Inappropriate storage of chemicals and equipment
- Inadequate compliance with permits and regulatory requirements



Laboratory Data Quality Review





Unlabeled/Unknown Substance Discovered





DOECAP Program Team



George Detsis – DOE HQ

ASP Program Manager

E-mail: george.detsis@hq.doe.gov

Jorge Ferrer - DOE Oak Ridge

DOECAP Manager

E-mail: ferrerja@oro.doe.gov

Richard Martin – DOE Oak Ridge

Deputy DOECAP Manager

E-mail: martinrw@oro.doe.gov

Susan Aderholdt-Pro2Serve

DOECAP Corrective Actions Coord

E-mail: aderholdtsl@oro.doe.gov

Todd Hardt - Pro2Serve, Inc.

DOECAP Training & Qualifications Coord.

E-mail: hardttl@oro.doe.gov

Rhonda Jobe - Pro2Serve, Inc.

DOECAP Document Control Coord.

E-mail: joberd@oro.doe.gov

Joe Pardue - Pro2Serve, Inc.

DOECAP Technical Operations Coord.

E-mail: parduegjr@oro.doe.gov