



**INTERSTATE TECHNOLOGY AND  
REGULATORY COOPERATION (ITRC) WORK GROUP**

**AND**

**US ENVIRONMENTAL PROTECTION AGENCY  
CONSORTIUM FOR**

**SITE CHARACTERIZATION TECHNOLOGY  
(CSCT)  
PARTNERSHIP**

**FY-97 SUMMARY REPORT**

**-FINAL-**

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**Prepared by**

**The Interstate Technology and Regulatory Cooperation  
Accelerated Site Characterization Work Team**

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## **ABOUT ITRC**

Established in 1995, the Interstate Technology & Regulatory Council (ITRC) is a state-led, national coalition of personnel from the environmental regulatory agencies of some 40 states and the District of Columbia; three federal agencies; tribes; and public and industry stakeholders. The organization is devoted to reducing barriers to, and speeding interstate deployment of, better, more cost-effective, innovative environmental techniques. ITRC operates as a committee of the Environmental Research Institute of the States (ERIS), a Section 501(c)(3) public charity that supports the Environmental Council of the States (ECOS) through its educational and research activities aimed at improving the environment in the United States and providing a forum for state environmental policy makers. More information about ITRC and its available products and services can be found on the Internet at [www.itrcweb.org](http://www.itrcweb.org).

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**INTERSTATE TECHNOLOGY AND REGULATORY COOPERATION WORK GROUP  
(ITRC) & US ENVIRONMENTAL PROTECTION AGENCY CONSORTIUM FOR SITE  
CHARACTERIZATION TECHNOLOGY (CSCT) PARTNERSHIP FY-97 SUMMARY  
REPORT**

## **1.0 INTRODUCTION**

In 1996, the ITRC and the U.S. EPA's Consortium for Site Characterization Technology (CSCT) formed a collaborative partnership to:

- Enhance awareness among ITRC-member states about the CSCT verification process and verification products (i.e., reports and statements); and,
- Engage states with the CSCT verification process so that final verification products would meet state requirements for future technology applications.

The ITRC has been involved with CSCT to 1) provide a service and benefit to ITRC member states with an interest in accelerated site characterization tools, and 2) provide Consultation Services, in the form of state input into documents being developed by other organizations and/or participation in deployment activities, to the CSCT.

## **2.0 CSCT PURPOSE AND PROCESS**

CSCT is one of the first pilot programs under the U.S. EPA's Environmental Technology Verification program. The goal of CSCT is to increase the use of new characterization and monitoring technologies at clean-up sites. To attain this goal, CSCT will:

- Identify, demonstrate, evaluate, verify and transfer information about innovative and alternative monitoring, measurement, and site characterization technologies to developers, users, and regulators; and
- Define and demonstrate a process for verifying the performance of innovative site characterization technologies. By developing this process the Consortium will facilitate independent testing and demonstration that can generate the data necessary to evaluate and verify performance.

The following process is used by CSCT to conduct verifications:

- Develop standard technology demonstration guidance
- Provide technical support to the technology developer during the preparation and execution of the demonstration
- Audit the demonstration while the technology is being operated
- Independently evaluate and verify the data set generated during the demonstration
- Report on the performance of the technology
- Widely disseminate performance information and educate users and regulators

The Consortium employs a third-party verification organization (i.e., a DOE National Laboratory) to develop demonstration plans, conduct the evaluations, and write the final reports. Based on the assessment of the needs of users, CSCT annually solicits for available vendors, selects appropriate technologies, and conducts field performance evaluations.

Technologies are selected based on their applicability to the identified category of need, their maturity (commercially ready, full-scale field units), and the willingness of the vendors to participate. After the field evaluation, CSCT produces reports on each technology accompanied by a verification statements signed by the Director of EPA's National Exposure Research Laboratory.

## **2.1 ITRC Participation in the CSCT Technology Verification Process**

The Subteam was supported by the following individuals: Nancy Uziemblo, Washington Department of Ecology, ASC Team Leader; Michael Jacobson, Pacific Rim Enterprise Center, Subteam Lead; Kira Lynch, U.S. Army Corps of Engineers; Rick Tomlinson, Western Governor's Association; Dan Powell, U.S. EPA, Technology Innovation Office; and Eric Koglin, U.S. EPA, CSCT Co-Director. The following ITRC members participated in the activities of the Subteam:

### State Representatives

Randy Farr, Kansas Department of Health & Environment  
Mike Welch, Kentucky Department of Environmental Protection  
L. Hall Bohlinger and Douglas Bradford, Louisiana Department of Environmental Quality  
Stanley Tsai, Maryland Department of the Environment  
Linda Benevides and John Bourcier, Massachusetts Department of Environmental Protection  
Brett Anderson, Nebraska Department of Environmental Quality  
John Pendergast and Frank Camera, New Jersey Department of Environmental Protection  
Tom Schnieder, Ohio EPA  
Eric Blishke, Oregon Department of Environmental Quality  
Hao Zhu, Utah Department of Environmental Quality

### Stakeholders

J. Russell Boulding, Boulding Soil-Water Consulting  
Bob Puls, Kerr Lab, U.S. Environmental Protection Agency  
James Marsh, U.S. Department of Energy

The ITRC members' participation in the CSCT process helped ITRC member states understand the complexities of technology verification, and helped CSCT communicate their technology verification process. CSCT Verification Statements can assist state representatives when determining the appropriateness of utilizing the verified on-site measurement tools. In addition, the Verification Statements can be used by state environmental agency staff for evaluating, developing, and recommending alternative monitoring and characterization strategies.

During FY97, the ITRC participated in the CSCT verification of six soil and soil/gas sampling devices, four PCB analysis technologies, and five volatile organic compound (VOC) well-head monitoring technologies

(see Table 1). States reviewed the CSCT generic verification protocol guidance, provided input on specific protocols and attended visitors' demonstration days. An ITRC representative also attended the CSCT Board of Technology Users meeting to provide input to the technology needs identification process. In general, states were satisfied with the overall verification process and had confidence in the CSCT verification process and products. A formal concurrence by states was not sought by CSCT or the Subteam.

## 2.2 Verification Statements

CSCT had already concluded a number of verifications prior to formally interacting with the ITRC and the creation of the Accelerated Site Characterization Subteam. The overall verification process used was the same process that was used for the soil/soil gas, PCB analysis and VOC well-head technologies described above. The verification statements for the following technologies, by name and type, have been completed by CSCT:

### 2.2.1 Cone Penetrometers

*Site Characterization and Analysis Penetrometer*; cone penetrometer-deployed sensor  
*Rapid Optical Screening Tool*; cone penetrometer-deployed sensor

### 2.2.2 Field Portable X-Ray Fluorescence and Gas Chromatography/Mass Spectrometry

*EM640*; field transportable gas chromatograph/mass spectrometer  
*MAP Spectrum Analyzer*; field portable X-ray fluorescence analyzer  
*SEFA-P Portable X-ray Fluorescence Analyzer*; field portable X-ray fluorescence analyzer  
*SpectraTrak 672  $\hat{O}$* ; field transportable gas chromatograph/mass spectrometer.  
*TN 9000*; field portable X-ray fluorescence analyzer  
*TN Lead Analyzer*; field portable X-ray fluorescence analyzer  
*XL Spectrum Analyzer*; field portable X-ray fluorescence analyzer  
*X-MET 920-MP*; field portable X-ray fluorescence analyzer  
*X-MET 920-P and X-MET 940*; field portable X-ray fluorescence spectrometer

Additional, updated verification statements and reports can be found at the CSCT homepage at:  
<http://www.epa.gov/etv/pltmain.htm>.

## 3.0 FUTURE ACTIVITIES

Due to the limited number of states that were engaged in a detailed way with the CSCT process, the ITRC Accelerated Site Characterization team has recommended that states interact directly with CSCT, rather than formally through the ITRC. In order to ensure that the experience developed during the ITRC-CSCT partnership is not lost, it is intended that interested states continue to work with CSCT in reviewing demonstration plans and attending technology demonstrations.

FY 98 activities by CSCT include verification of sampling design software, field extraction technologies and groundwater sampling technologies. Table 2 shows the past and future verification efforts and opportunities

for continued state involvement. Additional areas of interest for CSCT verification through FY 99 include: on-site chemical analysis, in-situ monitoring and analysis, physical characterization, decision support tools accessing contaminated structures, toxicity testing, and in-situ bioremediation and natural attenuation monitoring.

Although not focused specifically on site characterization technologies, the formation of a new ITRC Verification Team means that states will continue to have access to the latest developments in verification programs. However, there will be a shift in focus towards how verification programs meet the needs of state regulators in utilizing and permitting technologies.

**Table 1. ITRC ASC SUBGROUP INVOLVEMENT WITH EPA CSCT VERIFICATION ACTIVITIES**

<b>ITRC/CSCT FY97 Technology Verification Activities</b>	<b>Reviewed CSCT Demonstration Guidance Document</b>	<b>Reviewed CSCT Demonstration Plan</b>	<b>Attended Technology Demonstration Visitor Day</b>	<b>Reviewed Verification Report</b>	<b>Desires Continued Involvement with the CSCT Verification Process</b>	<b>Interested in Obtaining the CSCT Verification Statements and Reports</b>
<b>EPA CSCT Technology Demonstration Plan Guidance Document</b>	Kansas Kentucky Louisiana Maryland Massachusetts Nebraska New Jersey Ohio Oregon Utah					
<i>XRF Analyzers</i> HNU Systems Metorex Niton Scitec TN Spectrace						Kansas Kentucky Louisiana Maryland Massachusetts Nebraska New Jersey Ohio Oregon Utah
<i>Field Portable GC/MS</i> Bruker-Franzen Teledyne Viking Instruments						Kansas Kentucky Louisiana Maryland Massachusetts Nebraska

						New Jersey Ohio Oregon Utah
<b>Sampling Soil &amp; Soil Gas</b> W.L. Gore & Assoc. Art's Manufacturing & Supply Geoprobe Systems Inc. SimulProbe Quadrel Services Inc. Clements and Asc. Inc.		Louisiana Maryland New Jersey Utah				Kansas Kentucky Louisiana Maryland Massachusetts Nebraska New Jersey Ohio Oregon Utah
<b>VOC Well-head Monitoring</b> PE Photovac Inficon Electronic Sensor Technology (EST) Sentex Systems Inc. Innova Air Tech Inst.		Kansas Louisiana Maryland Massachusetts Nebraska New Jersey Utah	Louisiana Massachusetts Utah		Louisiana Massachusetts Utah	Kansas Kentucky Louisiana Maryland Massachusetts Nebraska New Jersey Ohio Oregon Utah
<b>PCB Analysis</b> Dexsil Corporation Hach Electronic Sensor Technology (EST) Strategic Diagnostics		Louisiana Maryland Massachusetts New Jersey	Massachusetts New Jersey Tennessee		Massachusetts New Jersey	Kansas Kentucky Louisiana Maryland Massachusetts Nebraska New Jersey Ohio Oregon Utah

**TABLE 2. SCHEDULE OF CSCT VERIFICATION ACTIVITIES AND CLIENT GROUP INVOLVEMENT**

<i>Month</i>	<i>Meetings/ Conferences</i>	<i>Soil/Soil Gas Sampling</i>	<i>Groundwater Sampling</i>	<i>Well-Head Monitoring</i>	<i>PCB Analysis</i>	<i>Decision Support Software</i>
Jun 97	ITRC Subgroup Meeting 6/2	Visitor's Day 1 Albert City IA, 6/2 Visitor's Day 2 Commerce City, CO, 6/12		Draft Demonstration Plan Review 6/16	Draft Demonstration Plan Review 6/5-6/10 Visitor's Day Notification 6/12	
July 97	Draft Solicitation for 1998 technologies			Demonstration Plan comments due 7/15	Demonstration Plan comments due 7/11 Visitor's Day ORNL 7/24	
Aug 97	Regional 1 Network Meeting 8/6 ASTSWMO National Meeting 8/18-22			Visitor's Day notification 8/1		
Sept 97	Regional Network Meeting			Visitor's Day 1, 9/11 Visitor's Day 2, 9/22		
Oct 97	Users' Board Meeting					
Nov 97						
Dec 97		Draft Evaluation report review 12/24			Visitor's Day 1, 12/8	
Jan 98			Developer's conference	Draft Evaluation report 1/31	Draft Evaluation report review 1/31	
Feb 98						Developer's Conference, San Francisco CA 2/18
Mar 98		Final Reports/ statements distributed				
Apr 98				Final Reports/ statements distributed	Final Reports/ statements distributed	

# APPENDIX A

## ACRONYMS

ASC: Accelerated Site Characterization

CSCT: Consortium for Site Characterization Technology

EPA: United States Environmental Protection Agency

IIRC: Interstate Technology and Regulatory Cooperation work group

PCB: Polychlorinated Biphenyls

VOC: Volatile Organic Compounds

## **APPENDIX B**

## **ITRC CONTACTS**

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