Welcome to the CLU-IN Internet Seminar

NARPM Presents...ORD Scientific and Engineering Technical Support for RPMs (and Others)

Delivered: November 9, 2011, 1:00 PM - 3:00 PM, EST (18:00-20:00 GMT)

Presenters:

Felicia Barnett, U.S. EPA Region 4; Director, Site Characterization and Monitoring Technical Support Center; ORD Superfund and Technology Liaison (barnett.felicia@epa.gov or (404) 562-8659)

David Burden, Director, EPA Ground Water Technical Support Center (burden.david@epa.gov or (580) 436-8606)

Matt Jefferson, U.S. EPA Region 7, Remedial Project Manager (jefferson.matthew@epa.gov or (913) 551-7520)

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David Reisman, Director, ORD Engineering Technical Support Center (reisman.david@epa.gov or (513) 569-7588)

Moderator:

Jean Balent, U.S. EPA, Office of Superfund Remediation and Technology Innovation (balent.jean@epa.gov or (703) 603-9924)

Visit the Clean Up Information Network online at www.cluin.org

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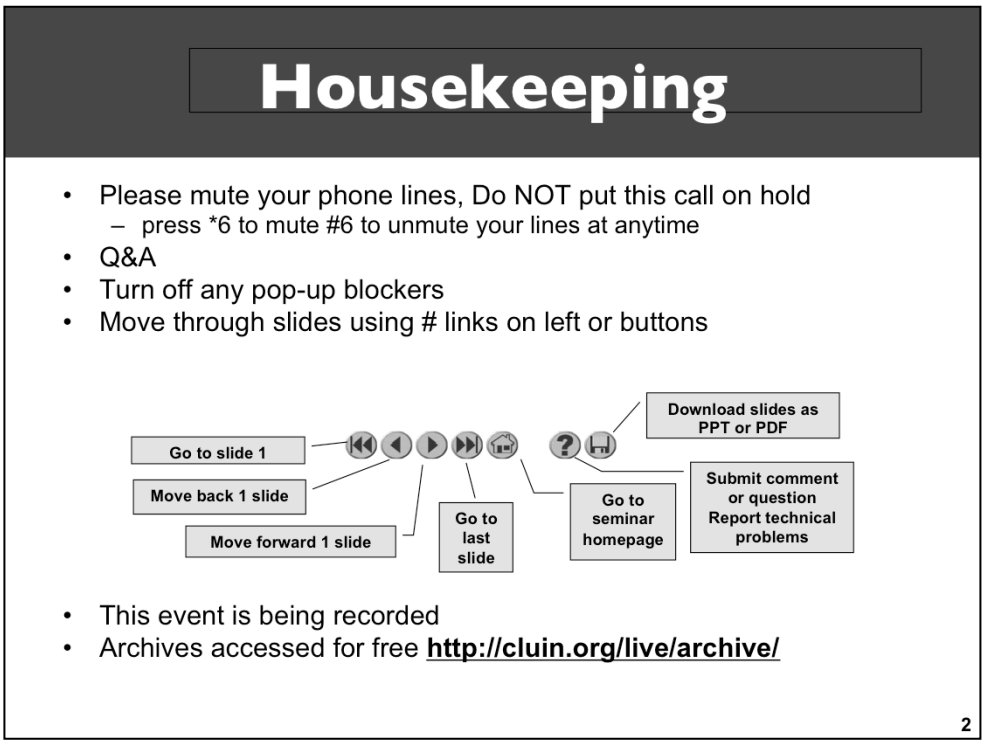


Although I'm sure that some of you have these rules memorized from previous CLU-IN events, let's run through them quickly for our new participants.

Please mute your phone lines during the seminar to minimize disruption and background noise. If you do not have a mute button, press *6 to mute #6 to unmute your lines at anytime. Also, please do NOT put this call on hold as this may bring delightful, but unwanted background music over the lines and interupt the seminar.

You should note that throughout the seminar, we will ask for your feedback. You do not need to wait for Q&A breaks to ask questions or provide comments. To submit comments/questions and report technical problems, please use the ? Icon at the top of your screen. You can move forward/backward in the slides by using the single arrow buttons (left moves back 1 slide, right moves advances 1 slide). The double arrowed buttons will take you to 1st and last slides respectively. You may also advance to any slide using the numbered links that appear on the left side of your screen. The button with a house icon will take you back to main seminar page which displays our agenda, speaker information, links to the slides and additional resources. Lastly, the button with a computer disc can be used to download and save today's presentation materials.

With that, please move to slide 3.

The EPA Superfund and Technology Liaison Program

Facilitating the Use of Sound Science and Technology in Decision-Making for the Hazardous-Waste Programs

Felicia Barnett
EPA Office Of Research and Development
Office of Science Policy
November 9, 2011

Superfund and Technology Liaison Program

Presentation Outline:

1. EPA and ORD Organization Overview
2. STL Program
3. The EPA Technical Support Project (TSP) including ORD Labs and Centers
4. Technical Support Centers

How is EPA Organized?

Office of the Administrator

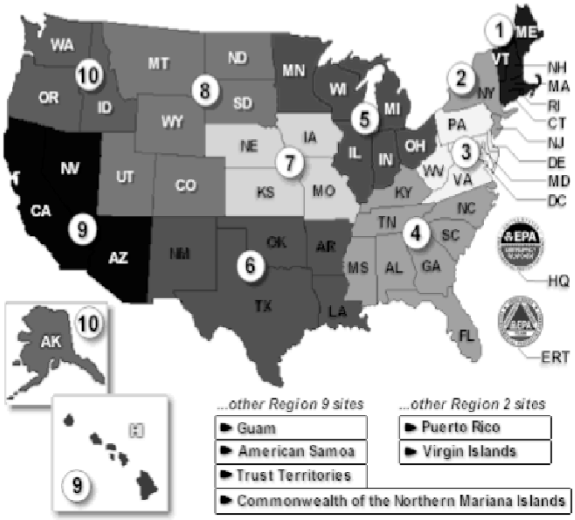
Headquarters offices

- Office of Administration and Resources Management
- Office of Air and Radiation
- Office of Chemical Safety and Pollution Prevention
- Office of the Chief Financial Officer
- Office of Enforcement and Compliance Assurance
- Office of Environmental Information
- Office of General Counsel
- Office of Inspector General
- Office of International and Tribal Affairs
- Office Research and Development
- Office of Solid Waste and Emergency Response
- Office of Water

Regional offices around the nation

- Region 1 / Boston
- Region 2 / New York
- Region 3 / Philadelphia
- Region 4 / Atlanta
- Region 5 / Chicago
- Region 6 / Dallas
- Region 7 / Kansas City
- Region 8 / Denver
- Region 9 / San Francisco
- Region 10 / Seattle

EPA Regional Map



How is ORD Organized?

Office of the Assistant Administrator

Office of the Science Advisor

Deputy Assistant Administrator for Science

- Office of Science Policy (OSP)
  - Superfund and Technology Liaisons (STLs)
  - Regional Science Liaisons (RSLs)
- National Program Directors (NPDs)

Deputy Assistant Administrator

- Office of Science Information Management
- Office of Resource Management and Administration

National Laboratories and Centers around the nation

- National Center for Environmental Assessment (NCEA)
- National Exposure Research Laboratory (NERL)
- National Center for Environmental Research (NCER)
- National Health and Environmental Effects Research Laboratory (NHEERL)
- National Center for Computational Toxicology (NCCT)
- National Homeland Security Research Center (NHSRC)
- National Risk Management Research Laboratory (NRMRL)
- Office of Administration and Research Support (OARS)

Map of ORD Locations

STL Program Overview

- The STL Program was established in 1990 as a tri-part agreement between ORD, the Regions, and OSWER
- Primary Purpose – Establish ORD points-of-contact in regions to facilitate access to ORD labs, promote ORD technical support programs and integrate sound science and engineering in hazardous waste programs
- STLs are EPA Office of Research and Development Headquarters Employees
  - Administratively located in the Office of Science Policy – Washington, D.C.
  - Physically out-posted to regional offices

What STLs Do in the Regions

The mission of the national Superfund and Technology Liaison (STL) program is to facilitate the sound use of science and technology in decision making for hazardous waste programs.

Coordinate technical support

- Technical Support Centers
- Agency sources of expertise

Provide direct technical support

- Superfund, RCRA, Brownfields

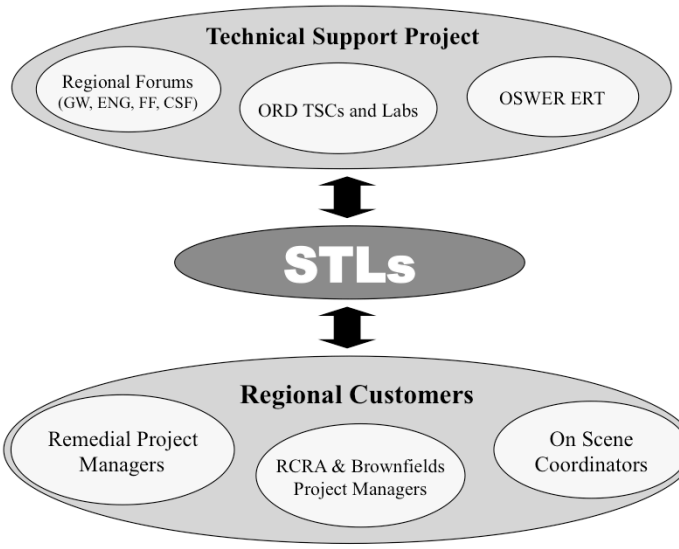
Facilitate technology and information transfer

- Planning and conducting training, workshops and conferences
- Publishing guidance, issue papers, and scientific journal papers
- Participating in regional and national technical workgroups and forums
  - Technical Support Project (TSP)

Communicate research priorities

- Between ORD and the Regions

STLs are in the Center of the Regional Waste Program Technical Support Infrastructure



STLs and Regional Host Supervisors

STL	Region	Host Supervisor
Steve Mangion	**1**	**Stan Chin,** Technical Support Branch Chief, Office of Site Remediation and Restoration
Diana Cutt	**2**	**Vince Pitruzzello**, Chief - Program Support Branch, Emergency and Remedial Response Division
Bill Hagel	**3**	**Paul Leonard**, Director - Office of Technical and Administrative Support Hazardous Site Control Division
Felicia Barnett	**4**	**Glenn Adams**, Chief - Technical Services Section, Superfund Division
Chuck Maurice	**5**	**Steve Ostrodka**, Chief - Field Services Section, Innovative Services & Technologies Branch, Superfund Division
Terry Burton	**6**	**Pam Phillips,** Deputy Director - Superfund Division
Rob Weber	**7**	**Gene Gunn**, Chief - Special Emphasis Remedial Branch, Superfund Division
Vacant	**8**	**Deb McKean** - Technical Assistance Unit, Ecosystems Protection and Remediation Program Support Branch
Mike Gill	**9**	**Harold Ball**, Chief - Superfund Technical Support Section, Superfund Division
Kira Lynch	**10**	**Sheila Fleming**, Unit Manager - Risk Evaluation Unit, Office of Environmental Assessment

http://www.epa.gov/osp/hstl.htm

Technical Support Project

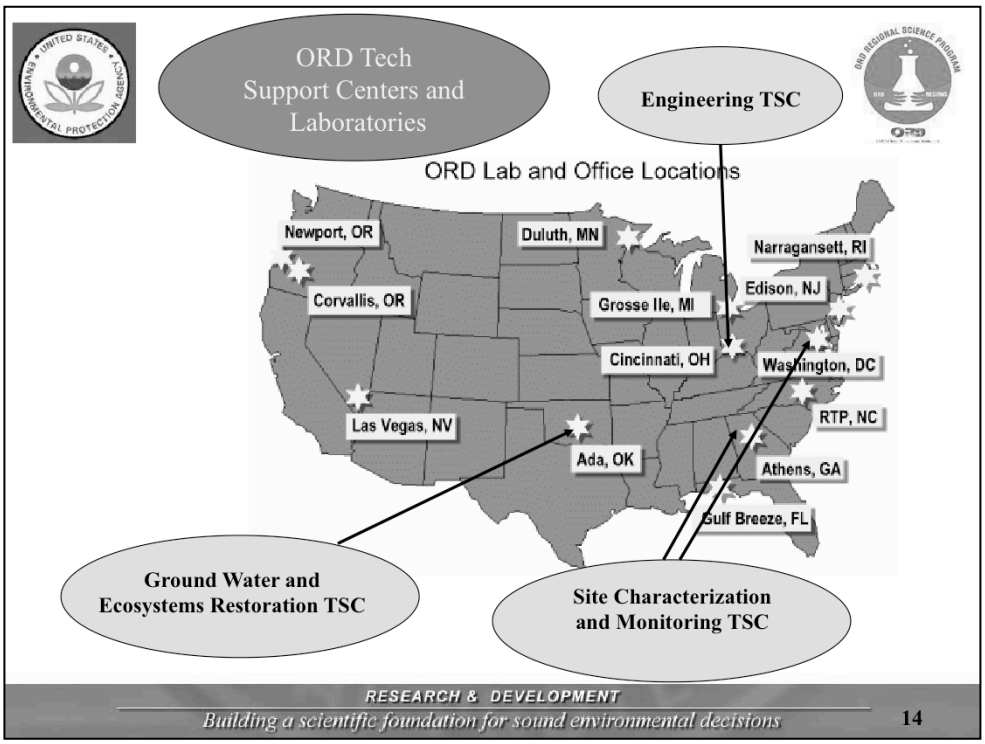
Technical support network established in 1987

Joint effort of OSWER, ORD and Regions.

Provides technical assistance to RPMs, RCRA, and OSCs for difficult aspects of waste cleanup.

Parts of the TSP Network

- ORD Laboratories
  - Technical support centers
- Regional Forums
  - Engineering, Ground Water, Federal Facilities Forums
- Environmental Response Team
  - 24 hour emergency response support


ORD Tech
Support Centers and
Laboratories
Engineering TSC
ORD Lab and Office Locations
Newport, OR
Duluth, MN
Narragansett, RI
Corvallis, OR
Grosse Ile, MI
Edison, NJ
Cincinnati, OH
Washington, DC
RTP, NC
Las Vegas, NV
Ada, OK
Athens, GA
Gulf Breeze, FL
Ground Water and
Ecosystems Restoration TSC
Site Characterization
and Monitoring TSC
RESEARCH & DEVELOPMENT
Building a scientific foundation for sound environmental decisions
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Site Characterization and Monitoring Technical Support Center (SCMTSC)

Presented: November 9, 2011

Felicia Barnett
Director, SCMTSC

Site Characterization and Monitoring and Technical Support Center

Provides site characterization support by identifying state-of-the-science methods and technologies to identify contaminants, determine their levels and concentrations, and identify their geographic extent.

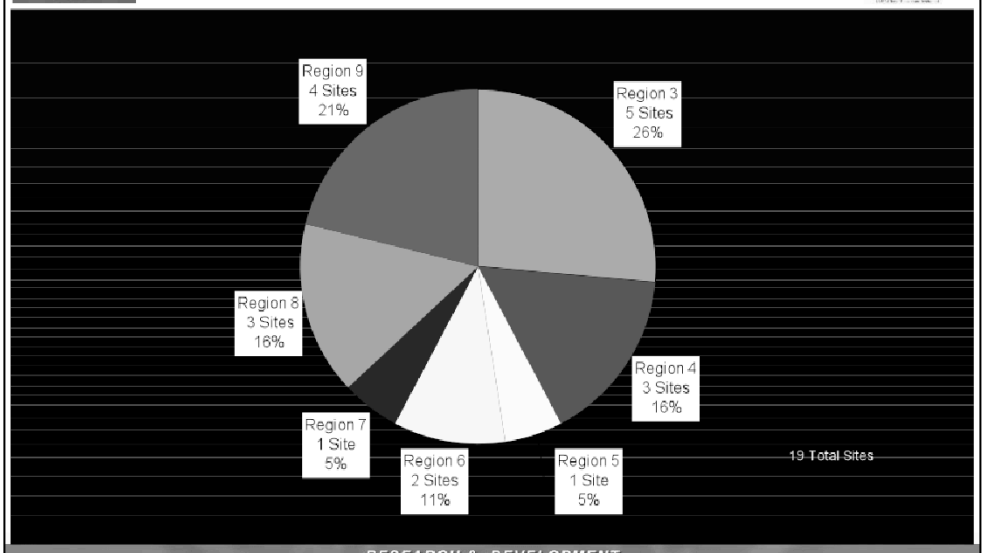
Website: (Contact Information; Annual Reports)

http://www.epa.gov/osp/hstl/tsc/tsc.htm

Site Characterization and Monitoring Technical Support Center

- Operated by the STL program with support from the NERL lab in Las Vegas
- Providing Geostatistics Statistical Design, Analysis and Expertise
- Conducting field sampling and/or monitoring and contaminant measurement activities, including soil-gas measurements, characterization technologies (e.g. field portable X-ray fluorescence), and waste fingerprinting analysis
- Geophysics
- Evaluating reports, models, and work plans related to field sampling and measurement approaches.
- Providing reliable and accurate information/developing issue papers on innovative site characterization technologies.
- Performing Special Analytical Services
- Providing GIS and Data Interpretation

FY10 Technical Support by Number of Sites per Region



Site Examples of SCMTSC Support

- Statistical Support - Yorktown Navel Weapons Station- R3, Madison County Mines - R7, Santa Suzana - R9
- Source Allocation/Fingerprinting/ Isotope Analysis - CTS-R4, Lower Fox River- R5, Exide Technologies - R6
- Mercury Monitoring Support - BF Goodrich - R4, Olin OU#2 - R4
- Remote Monitoring Design - Barite Mine - R4, Ten Mile Creek - R8

Statistical Support

Site characterization, remediation, exposure and risk assessment decisions are often made based on a limited number of analytical results of samples (e.g., soils, groundwater) collected from various site locations including background and impacted site areas

Site characterization and risk estimates based on this data suffer from uncertainties – which need to be quantified.

Statistical Support

Statistical methods can be used to compute appropriate number of samples needed to meet DQOs by quantify uncertainties associated with decision statistics (e.g., 95% UCL, 95% upper tolerance limit, t-test, Wilcoxon Rank \Sum test) used to address project objectives.

Guidance

- USEPA (2000). U.S. Nuclear Regulatory Commission, *et al. Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). EPA 402-R-97-016*.
- USEPA (2002a). *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*. EPA 540-R-01-003-OSWER 9285.7-41.
- USEPA (2002b). *Calculating Upper Confidence Limits for Exposure Point concentrations at Hazardous Waste Sites*. OSWER 9285.6-10.
- USEPA (2006). *Data Quality Assessment: Statistical Methods for Practitioners,* EPA QA/G-9S. EPA/240/B-06/003.
- USEPA (1996). *Soil Screening Guidance: User's Guide*. Office of Solid Waste and Emergency Response. EPA/540/R-96/018

USEPA Statistical Support Software

- ProUCL - used to estimate exposure point concentration (EPC) terms, not-to-exceed, and background threshold values (BTVs) for data sets with non-detect (ND) and without ND observations. http://www.epa.gov/osp/hstl/tsc/software.htm

- SCOUT - provides a wide variety of classical and robust statistical methods that are not typically available http://www.epa.gov/esd/databases/scout/abstract.htm

Source Allocation, Fingerprinting and Isotope Analysis

Environmental Forensics/Fingerprinting Geochemistry is defined as a scientific methodology developed for identifying hazardous environmental contaminants and for determining their sources and time of release. It combines analytical procedures with scientific principles derived from the disciplines of organic geochemistry and hydrogeology.

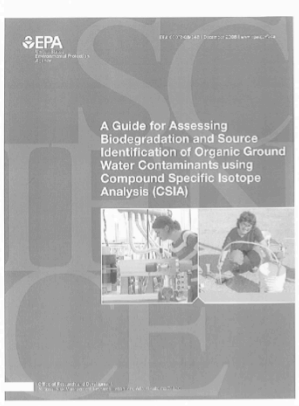
Fingerprinting and isotope analysis

Possible chemical fingerprinting depends on the contaminant, number of potential sources, and degradation issues.

Chemical isomers, congeners, and isotopes all have potential for identifying contaminant sources depending on the contaminant.

USEPA Guidance

A Guide for Assessing Biodegradation and Source Identification of Organic Ground Water Contaminants using Compound Specific Isotope Analysis (CSIA), USEPA, December 2008



http://www.epa.gov/ada/pubs/reports/600r08148/600r08148.pdf

Mercury Characterization and Monitoring

- Address site characterization issues related to mercury-contaminated soils and sediments
- Required demonstrated experience with mercury contaminated sites
- Knowledge and expertise in modeling an estimated release of mercury flux through different materials

Mercury Characterization and Monitoring

- Developed criteria for soil cleanup
- Contaminant flux modeling
- Review of PRP documents:
  - Sampling Plans
  - QAPPs
  - RI/FS
  - Remedial technologies

Remote Monitoring

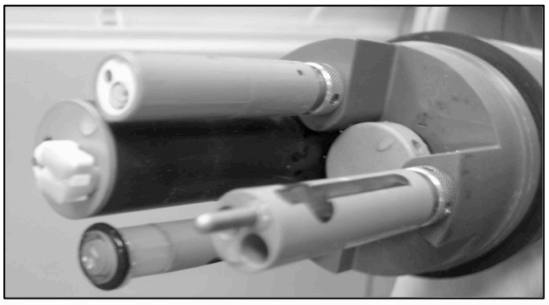
- Develop integrated autonomous low cost system that includes:
  - Geophysical, Hydrological self calibrating general chemical sensor network backed by a secure integrated web based data storage and retrieval software system.
  - Enables remote control and access to accessible as well as remote inaccessible monitoring systems
  - Monitoring approach include the following attributes:
  - Automation of data collection, QA review and reporting
  - Remote control of data acquisition systems
  - Secure web based data accessibility
  - Complementary multi-sensor monitoring networks
  - Critical event alarm capabilities

Monitoring Philosophy

- Provide near real time site performance information for management and project engineers
- Integrated multi-sensor design
- Automation of data collection, storage, and reporting
- Self-calibration chemical sensor suite
- Remote control of data collection
- Secure web-based information accessibility
- Alarm capabilities

YSI 6600EDS Chemistry Sensor

- Dissolved Oxygen
- pH
- ORP
- Conductivity
- Temperature



Camera and Lake Level Sensor

How Remote Monitoring is Used

- Understand site dynamics
- Provide near real-time information
- Provide a long term, economical early warning system in case of environmental threat
- Collect information from the existing containment system in order to improve future treatment design
- Monitor the effectiveness of many remediation techniques

Thanks for Your Time and Attention

Questions and Discussion

What's New at The Engineering Technical Support Center?

National Risk Management Research Laboratory, ORD
David J. Reisman, M.En., Director


Celebrating our 23rd Year of
Providing Technical Support
"We Move More Than Paper"

Background of the Technical Support Project

- 1987 - OSWER, Regional Waste Management Offices, and ORD created the Technical Support Project (TSP)
- Purpose: To provide technical assistance to Regional Remedial Project Managers, Corrective Action Staff, and On-Scene Coordinators
- The Project consists of a network of Regional Forums and specialized Technical Support Centers located in ORD coupled with STLs in the Region

Objectives of the ETSC

- Enhance Communication between Researchers and RPMs
- Provide Technical Support to HQ and Regions
- Develop and Demonstrate Innovative Technologies
- Use Sound Science and Engineering Practices

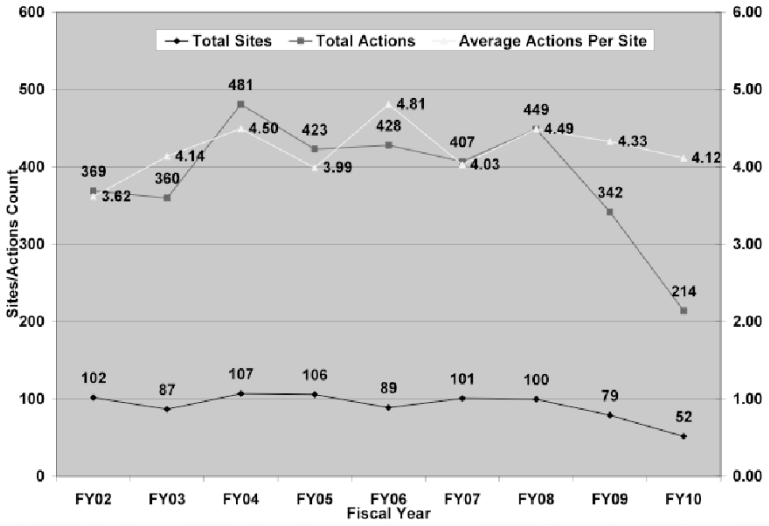
What Types of Support Does ETSC Offer?

- Reviews of Site Associated Engineering Documents
- Expert On-Site & Telephone Consultations
- Bench, Field-Scale, & Pilot Treatability Studies
- Support from Assessment through Design and Construction/Remediation & Site Completion
- Expert Consultants Available Through 6 Extramural Contractors and over 20 Sub-contractors

New Technologies and New Methods

- Solidificaton and Stabilization including Slurry Walls
- “Landfill” Bioreactors for Energy Production
- Biochemical Reactors for Mining-Influenced Water Treatment
- Sediment Studies and New Technologies (ex: AquaBlok)
- Encapsulation PCBs, others (Cement Lock)
- Advanced Oxidation Processes (in-situ treatment)

ETSC Annual Milestones



RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions

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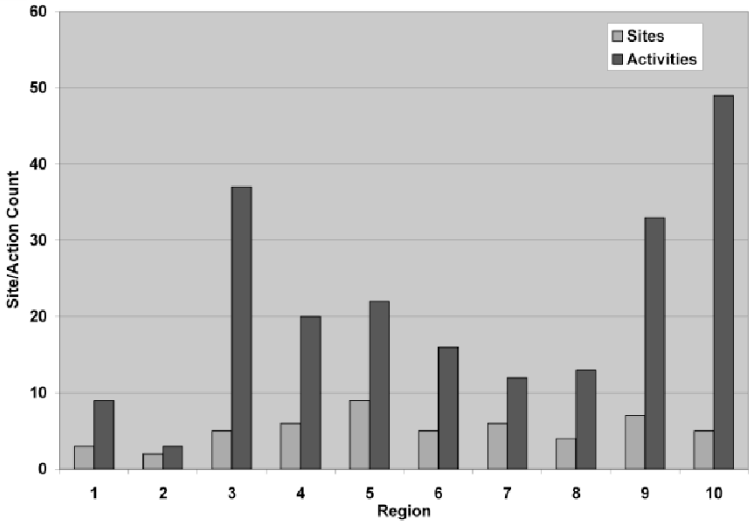
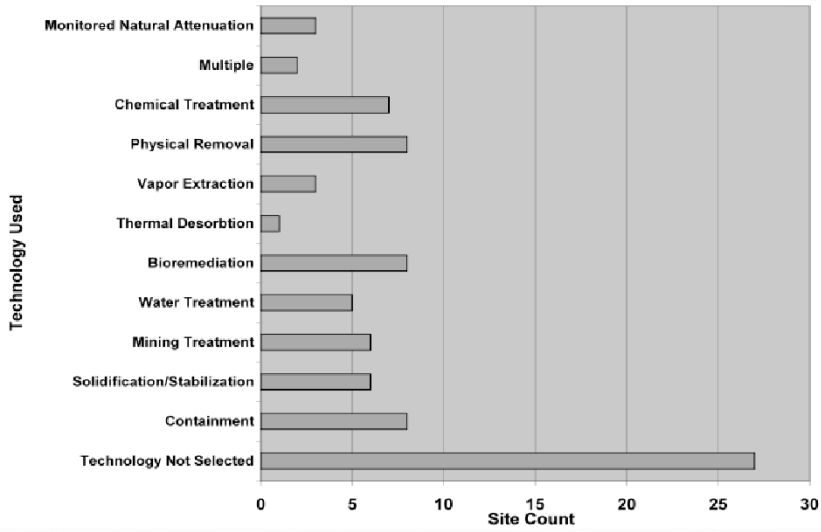
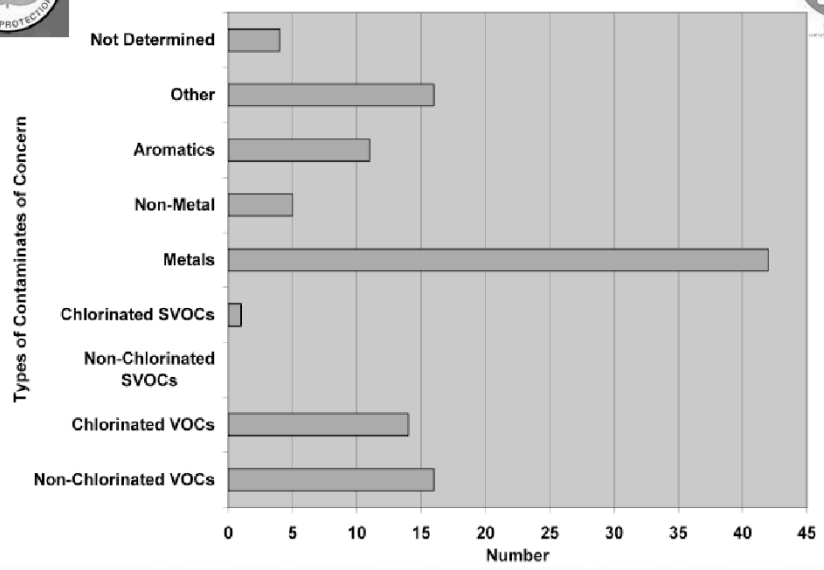
ETSC in the Regions - FY 10



Technologies Used on Sites



FY 10 COCs at Sites



EPA's ORD/NCEA Ecological Risk Assessment Support Center (ERASC)

- ORD focal point for scientific questions regarding interpretation of ecological data for hazardous waste site ecological risk assessments (ERAs)
- Relies on cross-ORD expertise
- Develops responses that reflect the "state of the science" for ERA
- http://www.epa.gov/erasc

Ground Water Technical Support Center (GWTSC)

David S. Burden, Ph.D.
U.S. EPA / ORD/ NRMRL / GWERD
Ada, Oklahoma

Mission of the GWTSC

- To develop critical links between ORD scientists and Agency decision-makers that will channel technical expertise and research results to the EPA's operating programs
- To facilitate the use of the best scientific understanding to solve real-world problems and reduce risks to human health and the environment
- Serve as a conduit to ensure GWERD and NRMRL research is addressing the most important problems the Agency is facing

GWTSC Objectives

- Improve communications among EPA Program and Regional offices and ORD Laboratories

Provide scientific and technical support and assistance to EPA Program and Regional staff through access to ORD scientists, engineers, and technical experts

GWTSC Objectives

- Ensure the use of sound science and engineering practices in the application of site characterization technologies and the implementation of remedial solutions
- Present technology workshops, training courses. and state-of-the science information for site managers and RPMs at SF, RCRA, and BF sites

Program Implementation

- Quick-response technical assistance to Program and Regional staff and other decision makers on CERCLA, RCRA, Brownfields, and ecosystem restoration issues

- Guidance in the planning of site characterization investigations, remedial investigations, feasibility studies, and the identification and selection of remedial alternatives

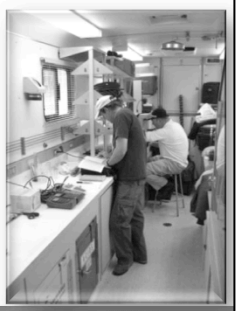
Program Implementation

- Support in the identification and selection of appropriate environmental modeling applications and in the review of site-specific modeling efforts

- Oversight assistance in the design, testing, implementation, and evaluation of new and innovative technologies to treat contaminated soils and ground water and to restore sensitive ecosystems

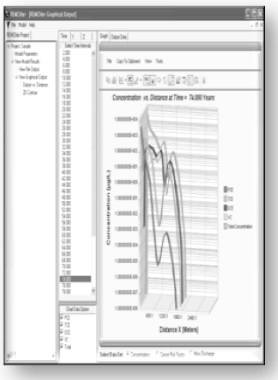
GWTSC Team

- Members of the EPA's Applied Research and Technical Support Branch (ARTSB) form the core of the Program
- Other Division scientists from the Subsurface Remediation Branch (SRB), the Ecosystem and Subsurface Protection Branch (ESPB) and field support staff are available to the Program and are called upon when additional expertise is needed

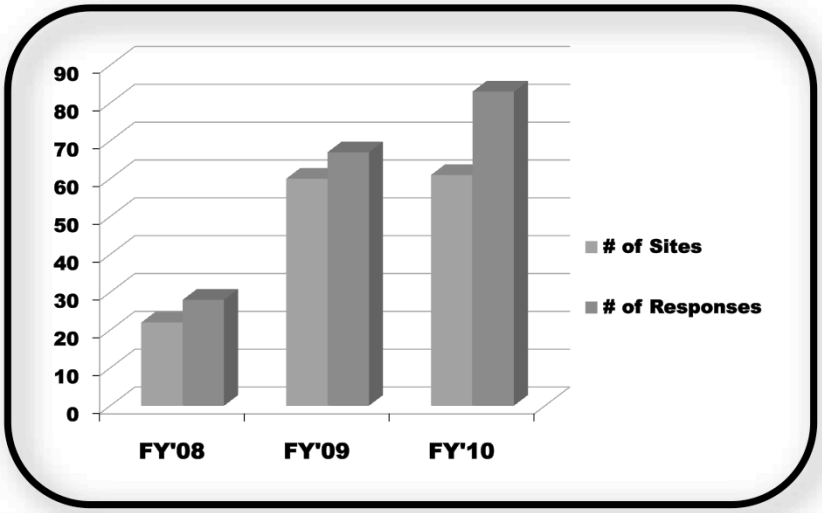


GWTSC Team
(cont'd.)

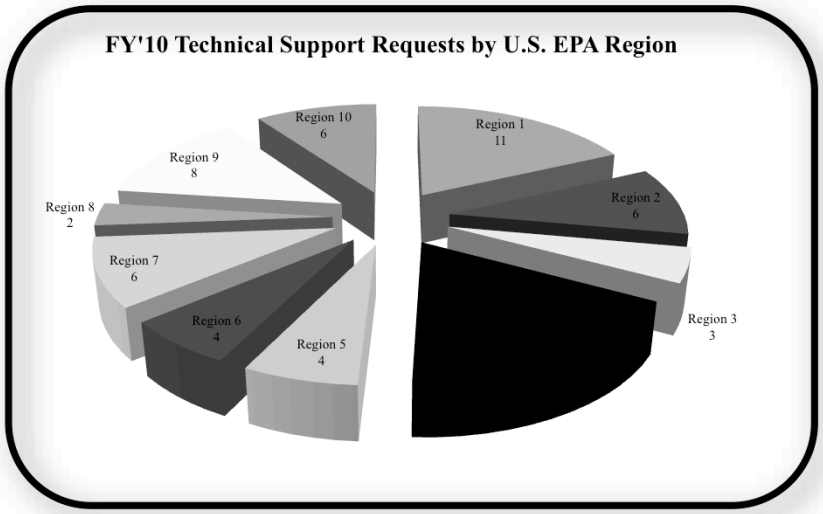
- **Contractor Support**
  - Shaw Environmental – on-site contractor
    - Provide expertise to address technical support questions
    - Access to additional expertise via subcontractors and consultants
    - Center for Subsurface Modeling Support (CSMoS)



Ground Water Technical Support Center



Ground Water Technical Support Center



Center for Subsurface Modeling Support (CSMoS)

CSMoS Mission

- CSMoS is an integral part of NRMRL's Ground Water Technical Support Center
- Provides readily accessible public domain ground-water and vadose zone modeling software, decision support tools, and guidance documents to a variety of users including the EPA Regions, Universities, State and Federal Agencies, and the Private Sector

Center for Subsurface Modeling Support (CSMoS)

- Provides direct technical support to EPA and state decision makers in subsurface model applications, and to manage and support the ground water models and databases resulting from the research at EPA's National Risk Management Research Laboratory (NRMRL)

- Provide GIS and database development **and** support to GWERD research and technical support scientists

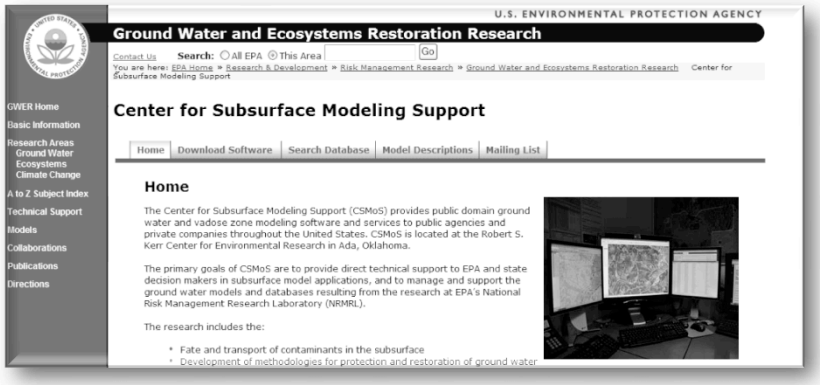
Center for Subsurface Modeling Support (CSMoS)

- CSMoS is supported by the EPA and contractor (Shaw Environmental) scientists and engineers.
- Specialties include hydrogeology, chemistry, soil science, biology, environmental engineering, ecology, and computer programming
- CSMoS provides assistance in:
  - Model Conceptualization
  - Model Development, Application, and Review
  - Model Training and Education
  - Model Distribution

Center for Subsurface Modeling Support (CSMoS)

- Distribute 30 different ground water, vadose zone models and decision support tools via the CSMoS website:

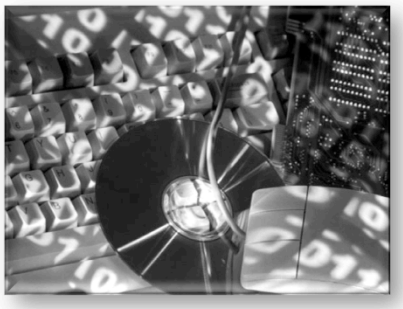
www.epa.gov/nrmrl/gwerd/csmos



Center for Subsurface Modeling Support (CSMoS)

- Since Oct. 1996: Distributed more than 217,500 copies
  - Average: 1250/month
- Since 1996: Provided technical support on more than 6,000 requests
  - Average: 36/month

- FY'10 Total model distribution: 16,150
  - Average: 1346/month
- FY'10 Technical support modeling requests: 200
  - Average: 17/month



www.epa.gov/nrmrl/gwerd

QUESTIONS?


U.S. ENVIRONMENTAL PROTECTION AGENCY
Ground Water and Ecosystems Restoration Research
Contact Us
Search: All EPA This Area
Go
You are here: EPA Home » Research & Development » Risk Management Research » Ground Water & Ecosystems Restoration Research
GWER Home
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Research Areas
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Ecosystems
Climate Change
A to Z Subject Index
Technical Support
Models
Collaborations
Publications
Directions
Ground Water and Ecosystem Restoration Research
Quickfinder
Arsenic in Drinking Water
Biofuels
Combined Treatment Technologies
Concentrated Animal Feeding Operations
Decision-Support Systems
DNAPLs and Flux-Based Site Management
Fuel Oxygenates
Gas and Vapor Intrusion
Geologic Sequestration of Carbon
Hydraulic Fracturing
In Situ Chemical Oxidation
In Situ Chemical Reduction
Monitored Natural Attenuation
Nanotechnology
Nitrogen Management
Permeable Reactive Barriers
Riparian Zone/Stream Restoration
Thermal Remediation
Watershed Management
Water Quality and Availability
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CSMoS
RESEARCH & DEVELOPMENT
Building a scientific foundation for sound environmental decisions
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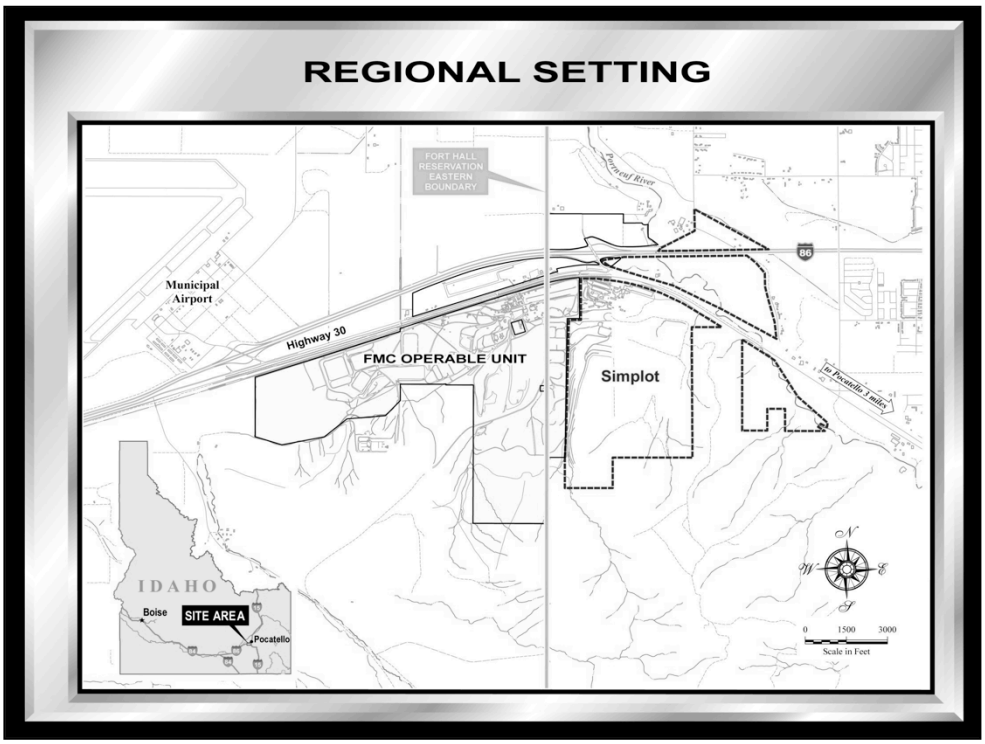
Eastern Michaud Flats Superfund Site RPM Discussion on ORD Technical Support

Kira Lynch – Region 10 STL
lynch.kira@epa.gov

Site Background

- EMF Superfund Site includes FMC and Simplot and offsite areas
- Simplot produced phosphoric acid for fertilizer and FMC was an elemental phosphorus manufacturing facility
- FMC ceased production in 2001
- Simplot continues to operate
- Entire site is 2,475 acres, with most of FMC on Fort Hall Reservation


REGIONAL SETTING
FORT HALL RESERVATION EASTERN BOUNDARY
Portneuf River
Municipal Airport
Highway 30
FMC OPERABLE UNIT
Simplot
86
to Pocatello 7 miles
IDAHO
Boise
SITE AREA
Pocatello
N
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0 1500 3000
Scale in Feet

Key Project Stakeholders

- Idaho Dept of Environmental Quality
- Shoshone Bannock Tribes (SBT)
- Power County
- Bannock County
- City of Pocatello
- City of Chubbuck
- The RPs (Simplot and FMC)

The EPA Project Team

- Significant EPA Region 10 resources have been assigned to assist with developing protective cleanup plans
  - RPM
  - Health Physicist
  - Human Health Risk Assessor
  - Ecological Risk Assessor
  - Hydrogeologist
  - CERCLA and RCRCA attorneys

The EPA Project Team

- 6 experts from EPA Office and Research and Development (ORD) labs
  - Engineering
  - Risk assessment
  - Groundwater and Fate and Transport
  - Rad Characterization
- EPA tech support contract
- Corps IAG for technology evaluation support
- EPA HQ 50K on Independent Design Review
- Community Involvement Coordinator in Pocatello

Challenges Working with EMF site

- Incendiary nature and magnitude of contamination limits remedial options
  - There is no magic wand to remove and treat elemental phosphorus and 25 million yd^3 of slag
- Poorly written ROD from 1998
- FMC is located within the Shoshone Bannock reservation
- Simplot is an operating facility and chemical release have severely altered site geochemistry
- FMC involves work being performed under SF Remedial, Emergency Response, and RCRA CA

ORD Technical Support

- Engineering Tech Support Center
  - Gypsum stack liner design review
  - Phospine gas extraction and monitoring
  - FMC FS review
  - ET cap design review
- Engineering TSC has been providing support for the Superfund and RCRA actions at FMC for over 5 years
  - Over 20 technical documents have been reviewed during this time

ORD Technical Support Cont.

- Groundwater and Ecosystems Restoration Tech Support Center
  - Groundwater modeling review
  - Geochemical fate and transport expert review for Simplot plant characterization effort

ORD Technical Support Cont.

- Site Characterization and Monitoring Technical Support Center
  - Support with real-time on site in situ gamma analysis
  - Groundwater statistics review
  - Groundwater Geophysical Investigation review
- ORD Superfund Health Risk Technical Support Center (STSC)
  - Prepared PPTRV for phosphorus

Project Benefits From Obtaining ORD Technical Support

- FMC FS
- FMC and Simplot remedy implementation and characterization
- Independent data collected on radionuclides in soil to address Tribal concerns
- Groundwater modeling
- RBC for phosphorus

Questions?

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Madison County Mines Superfund Site and the ORD Site Characterization and Monitoring Technical Support Center

Dan Kellerman, EPA Region 7 RPM
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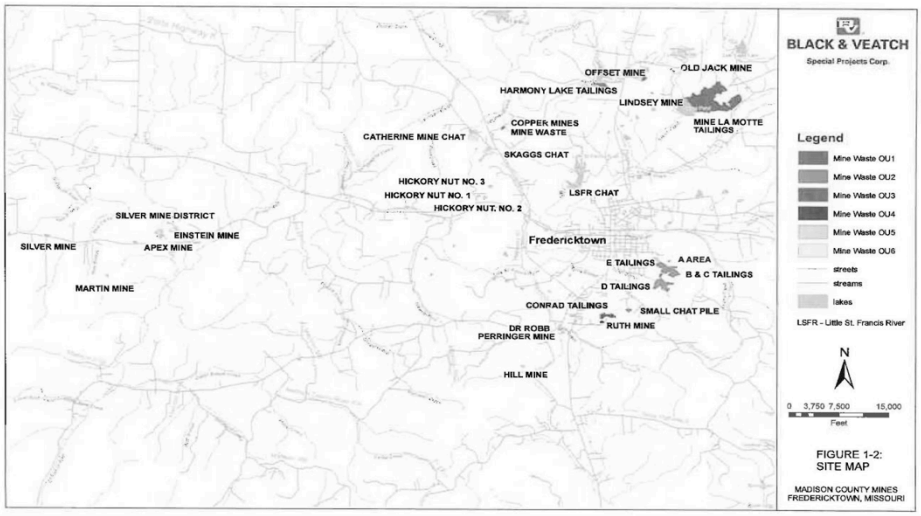
Site Background

- Located in Southeast Missouri in Fredericktown within the Old Lead Belt
- Lead mining since the early 1700s
- 498 square-mile site
- 13 major tailings and chat piles
  - Materials have been placed in many other piles and locations
  - Movement also through natural mechanical processes throughout the county
  - Lead and other heavy metals present in materials
- Soil, sediments, shallow groundwater, and surface water are impacted

Site Area Photograph



Decision Documents and Work Underway

- Added to the NPL in 2003
- Removal
  - Action memo in 2008 for residential properties that includes excavation, removal, and disposal of lead-contaminated soils as well as health education and an institutional controls pilot project
  - ARRA funds to support ongoing excavation, replacement, and disposal of 250,000 cubic yards of lead contaminated soil at 800 residential properties
  - 400 ppm lead removal action level
- Remedial
  - Address 1,100 residential properties
  - RI/FS began in 2008 and is ongoing

Site Issues and Concerns

- Residential yards require remediation to reduce exposure to lead and heavy metals
- During remediation and backfilling operations, contractor failed to collect samples to document backfill borrow area
- 77 residential properties were backfilled with unverified materials not meeting the Performance Work Statement (PWS) quality expectations
- Properties average a maximum of 250 cubic yards of backfill
- One composite sample of 5 aliquots required to confirm up to 5,000 cubic yards as acceptable for use
- Sample analyses required includes a suite of metals, volatile organic compounds, semi-volatile organic compounds, total petroleum hydrocarbons, pesticides, etc.

Technical Support Provided

- Do all 77 properties need to be sampled and verified? Or can a subset suffice?
- Task 1 – ORD SCMTSC reviewed background property backfill sampling plan and other site information to develop a statistically-based approach for sampling
- Task 2 – ORD SCMTSC provided a draft statistically-based sampling plan for EPA Region 7 review
- Task 3 – ORD SCMTSC delivered a final sampling plan to EPA Region 7

Outcomes and Key Message

- ORD SCMTSC recommended random collection of 8 samples from three backfill time periods for lead resulting in 24 or more samples
- For all other analytes, random sampling of 8 of the 77 properties
- Contractor followed the suggestions of the ORD SCMTSC
- No statistically significant detections were observed in the sampling locations
- What could have been a major site issue was addressed using transparent science and statistics
- Use the ORD SCMTSC!!! It was very easy!!! and no cost to the project!!!

Questions ?

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Conservation Chemical Company Superfund Site and ORD Technical Support Centers

21st Annual NARPM Training Program
Kansas City, Missouri
May 19, 2011

Matthew Jefferson
EPA Region 7 Remedial Project Manager

Background

- Located in Kansas City, Missouri near the Missouri River
- Waste Disposal and Treatment Facility
- 6 lagoons and buried drums containing:
  - Acid and Alkaline Metal Finishers
  - Cyanides and Refinery Wastes
  - Solvents and Organics
  - Arsenic and Phosphorus Wastes
  - Estimated 300,000 tons
- Operated from 1960 to 1976

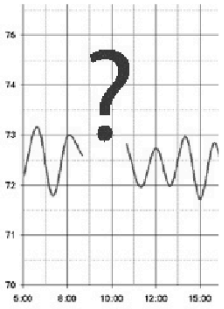
Conservation Chemical Company

Decisions & Resources

- Record of Decision in 1987
- Consent Decree in 1988: Pump and Treat Remedy picked by the Judge
  - Over 200 federal and private parties
  - No cost recovery or special account
- PRP-lead site
- Operation and Maintenance since 1991
- Smaller region – Limited support

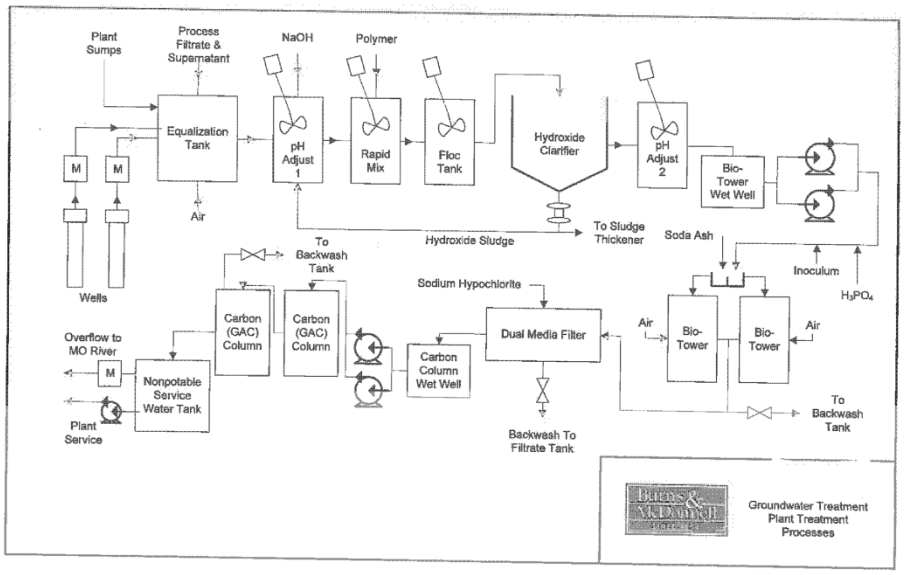
Issues and Concerns

- Groundwater Capture
  - Data Gaps and Hydrologic Control
  - Incomplete Investigation?
    - Underground river channel
    - "Off-site" contamination



- Five Year Review
  - Ecological Concerns with the Missouri River
  - Treatment Plant Concerns

Treatment Plant Schematic



Technical Support Services

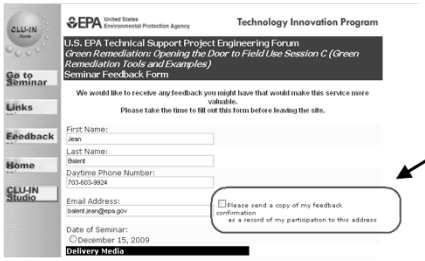
- Ground Water Technical Center in Ada, Oklahoma
  - Evaluate Groundwater Capture
  - Information Used in Ecological Impacts to the Missouri
- Engineering Technical Support Center in Cincinnati, Ohio
  - Review Responsible Party Treatment Optimization Report
  - Optimize Treatment Plant AND Remedy

Keys to Working with the Tech Support Center

- Talk to your Superfund Technical Liaison (STL)
- Set goals and deadlines for your technical support center
- Keep in regular communication

Resources & Feedback

- To view a complete list of resources for this seminar, please visit the **Additional Resources**
- Please complete the **Feedback Form** to help ensure events like this are offered in the future



Need confirmation of your participation today?

Fill out the feedback form and check box for confirmation email.

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