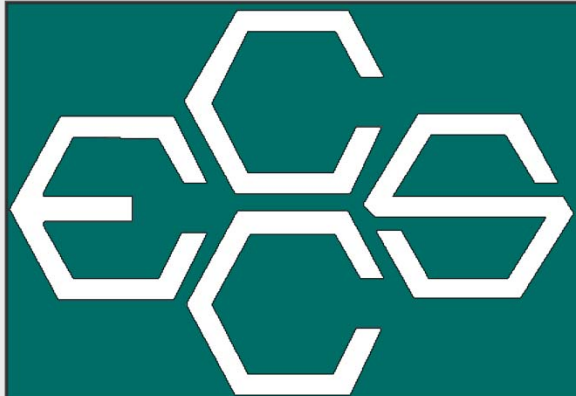


ECCS, Inc.

Your Partner Focused Solely on Project SUCCESS

Programmatic Implementation of Triad on a State-wide, Multi-site Reimbursement Program



Presentation Overview

- Objectives
- DATCP Program History and Overview
- Typical Site Layout
- Systematic Planning and CSM
- Dynamic Work Strategy
- Real-Time Measurement
- Conclusions



Presentation Objectives

Objectives

To demonstrate.....

- ❑ that simply using a mobile laboratory does NOT make a “Triad” project
- ❑ that the Triad approach can be used on small sites
- ❑ a “programmatic” application of Triad
- ❑ how Triad techniques extend into remedial action
- ❑ a “Triad” project that never uses the term “Triad,” *i.e.*, Triad chicken and egg debate

DATCP Program Overview

DATCP Program



- DATCP – Department of Agriculture, Trade, and Consumer Protection
- The Agricultural Chemical Cleanup Program (ACCP) has two separate functions.
 - Identifies and helps manage clean up of releases of pesticide and fertilizer spills
 - Once a site has been identified as needing a clean up, the ACCP program provides reimbursement for eligible costs incurred by the responsible persons

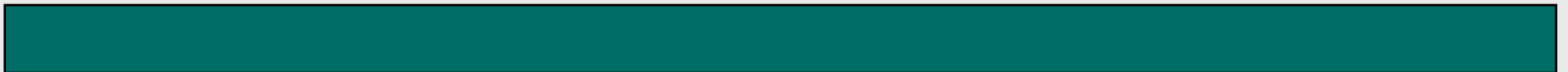
DATCP Program - History



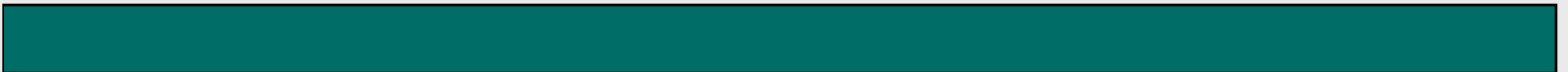
- **PROBLEM STATEMENT:** 1984 to 1988, DATCP/ DNR discovered approximately 30 cases of soil and/or groundwater contamination at or near sites where pesticides were mixed and loaded
- 1989 – Comprehensive report summarizing the findings
 - Necessitated a call for state-wide action plan
 - Stakeholder group formed and additional studies conducted
- 1991 – Findings of additional study published, basically forming the essence of a programmatic Conceptual Site Model (CSM)
- 1994 – ACCP established
- 1994 to Present – Success story
 - Initiated over 340 facility-related clean ups
 - Closed out over 120 facility-related cleanup cases
 - Responded to and closed out over 97% (762) of the 780 reported spills of agrichemicals
 - Received over 1,050 reimbursement applications and have paid out over \$31.8 million in reimbursements



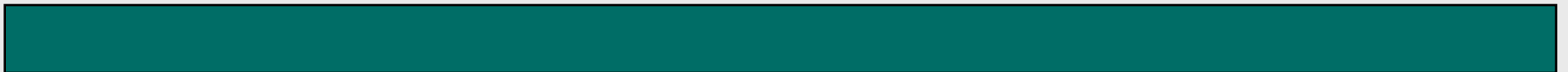
Typical Site Layout



Typical Pesticide/ Fertilizer Cooperative



Typical Pesticide/ Fertilizer Cooperative



Typical Site Layout

- Mixing/ Loading Areas
- Drainageways
- Pesticide Equipment Parking Areas
- Vehicle Weigh Scale Pits
- Acute Spill Areas
- Discarded Pesticide Container Storage Areas
- Burn Piles
- Pesticide Storage Areas
- Loadout Areas
- Wash Areas



Systematic Planning and CSM



Conclusions

- Inputs to State-wide Strategic Planning and Baseline CSM Process (early 90's)
 - Between 86 and 99% of all sites in Wisconsin can be expected to be contaminated
 - Between 45 and 75% will require soil remediation
 - Several common site areas will be targeted
 - Sites sampled and entered into the program
 - Budgets and timeframe are essential – need for use of dynamic approaches across the board

Systematic Planning

- Systematic planning includes three primary elements. These are:
 - **Framing the Problem:** identifying project objectives, constraints, stakeholders, the regulatory framework, and primary/secondary decisions.
 - **Developing a CSM:** constructing and maintaining a conceptual site model (CSM) that captures information pertinent to the primary/secondary decisions that must be made.
 - **Evaluating and Managing Uncertainty:** evaluating and managing the uncertainty associated with decision-making in the context of the CSM so that decisions can be made with acceptable levels of confidence.



Conceptual Site Model

- The CSM.....
 - Synthesizes and crystallizes what is already known about a site that is pertinent to decision-making requirements.
 - May take any (or several) of a number of formats (or combinations of formats) that can effectively portray site concerns significant to the decisions that must be made.
 - Evolves and mature as project work progresses.



Dynamic Work Strategy

Dynamic Work Strategy

Needed to:

- Fill data gaps that are present between the programmatic CSM and unique site-specific conditions
- History of operations
- Secondary containment
- Geology/ hydrogeology
- Address investigation/ remedial activities during a very short window (spring and fall)

Dynamic Work Strategy

Keys to success....

- Starting with the well-documented CSM
- Understanding site-specific nuances and uncertainty
- Experienced field staff
- Over 400 sites addressed with roughly the same approach/tool-set
- Informed stakeholder group



Real Time Measurement

Real Time Measurement

- Direct-push drilling (investigation) and test pits (remedial action)
- Mobile laboratory used for 75% of the projects (investigation and remedial action)
- Experienced chemists using established, codified methods
 - Pesticides by 8141 (GC/NPD)
 - Nitrate/nitrite + ammonia by Standard Method 4500 F and G (Ion Selective Electrode)
- 25 pesticide and 25 nitrogen can be analyzed for ~ \$1,800 per day (total)
- Results within 1-hour (pesticides) and <0.5-hour (nitrogen/ ammonia)



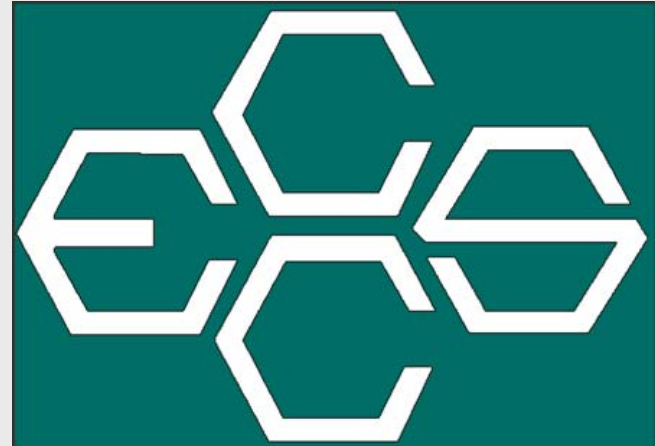


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