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**Effective Funding Management  
Approaches for Triad  
Investigations**

Sharon Budney, CHMM  
and Joseph Mayo  
CDM

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**Overview**

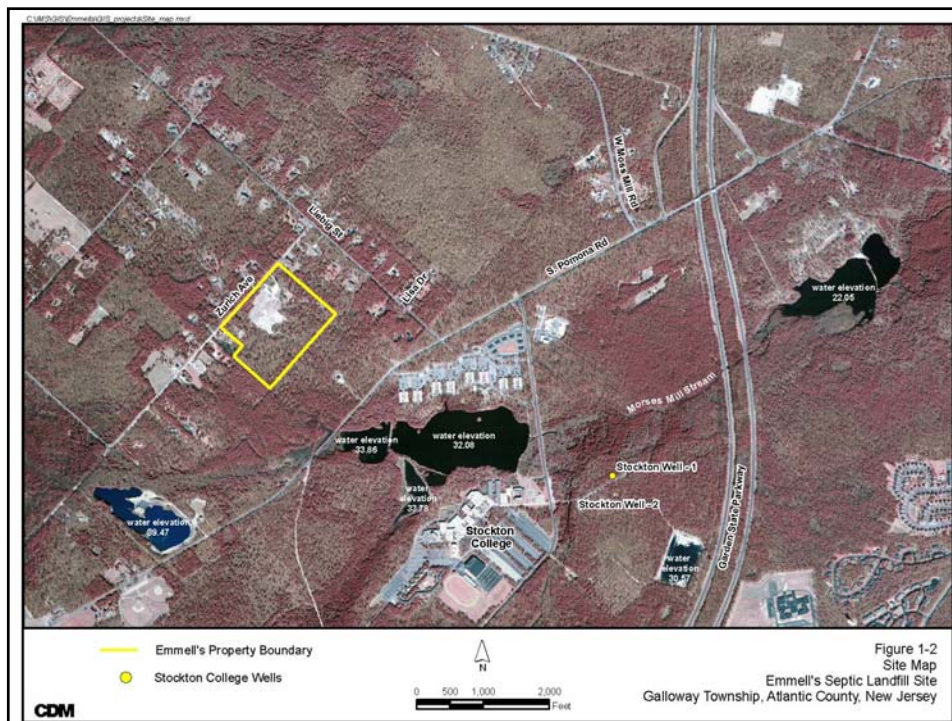
- ◆ Project Summary
- ◆ Incremental Funding Challenges
- ◆ Triad Investigations Implemented
- ◆ Optimal Funding

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## Project Summary

- ◆ Emmell's Septic Landfill Site – 38-acre former septic waste and sludge disposal facility
- ◆ Located in a rural area of Atlantic County, New Jersey
- ◆ Wastes disposed from 1967 to 1979
  - ◆ Septic wastes and sewage sludge were disposed in trenches and lagoons
  - ◆ Chemical wastes, paint sludge, and household garbage were also disposed at the site

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## Project Summary

- ◆ Primary contaminants – TCE, cis-1,2-DCE, vinyl chloride in groundwater
- ◆ Placed on the National Priorities List on July 22, 1999
- ◆ EPA Fund-Lead Site
- ◆ CDM is completing the RI/FS under the EPA Region 2 Response Action Contract (RAC)
- ◆ The project is incrementally funded

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## Incremental Funding

- ◆ Definition: Incremental allocation of funds based on a project's scope, fund usage rate (burn rate), and schedule.

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## Incremental Funding Challenges

- ◆ Flexible work plan needed to address the dynamic strategy of the field screening program
- ◆ Communication plan to inform EPA when funds will be required for each stage of work
- ◆ Flexibility to accommodate field changes and associated additional funding requests
- ◆ Keeping within existing project funding limits

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## Triad Investigations

- ◆ Triad approach was implemented in three phases of the field investigation:
  - ◆ Groundwater screening in the shallow aquifer combined with on-site laboratory analysis
  - ◆ Membrane Interface Probe (MIP) was used to screen for NAPL in the source area
  - ◆ Groundwater screening in the deep aquifer using off-site laboratories

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## Groundwater Screening - Shallow Aquifer

### Investigation Summary

- ◆ Planned 60 locations – screening every 10 feet from the water table to 80 feet bgs
- ◆ Identified sampling locations ahead of time
- ◆ Implemented screening in accordance with dynamic strategy
- ◆ Requested funding to cover full investigation
- ◆ Held daily calls with EPA to discuss results and future locations to be investigated

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## Groundwater Screening - Shallow Aquifer

### Results

- ◆ Determine plume boundary in the shallow aquifer with 24 screening locations
- ◆ Supported targeted placement of permanent monitoring wells
- ◆ Completed 3 weeks ahead of schedule and under budget
- ◆ Managed property access issues to limit impact on the program

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## Groundwater Screening - Shallow Aquifer

### Successes

- ◆ Implemented Triad approach within the contract requirements and funding structure
- ◆ Used remaining screening funds to continue the field investigation
- ◆ Executed a communication plan:
  - ◆ Kept EPA informed on progress, results, and field decisions
  - ◆ Communicated property access agreements critical to the program

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## MIP Investigation

### Investigation Summary

- ◆ Planned to screen 47 locations in the source area - surface to 80 feet bgs
- ◆ Completed 37 locations as planned – except for weather delay
- ◆ Added 3 new locations to further define specific areas
- ◆ Coordinated with EPA and other stakeholders regularly to make field decisions as a team

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## MIP Investigation

### Challenge

- ◆ Formal submittal and review of technical memorandum after screening delayed the Phase 2 field investigation

### Solution

- ◆ Minimize submittal of formal interim reports
- ◆ Propose meetings, present results, and use meeting minutes to document decisions
- ◆ Establish this more interactive approach during project planning

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## Groundwater Screening - Deep Aquifer

### Investigation Summary

- ◆ Initially planned 9 locations to be completed using Geoprobe® drill rig
- ◆ Screened at 10-foot intervals from 80 to 160 feet bgs
- ◆ Sent groundwater samples for VOC analysis to off-site laboratory – 24-hour turn around time
- ◆ Frequent meetings with EPA and stakeholders to discuss results and plan the next screening points

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## Groundwater Screening - Deep Aquifer

### Funding Challenges

- ◆ Geoprobe® could not reach proposed depth – limited to 125 feet bgs under site conditions
- ◆ Needed to use hydropunch with mud rotary drilling to reach total depth
- ◆ Required installation of casings into low permeability layer
- ◆ Did not include these costs in budget, although identified potential need for this method if Geoprobe® failed

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## Groundwater Screening - Deep Aquifer

### Solution

- ◆ Completed screening to maximum depth of Geoprobe® and then stopped
- ◆ Provided EPA with justification for new drilling method and associated cost increase
- ◆ Modified drilling subcontract
- ◆ Successfully completed investigation using new drilling and sampling method

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## Groundwater Screening in the Deep Aquifer

### Lessons Learned

- ◆ Maintain communication with EPA
  - ◆ Notified EPA early about drilling method shortcoming and immediately began work on alternative method
  - ◆ Minimized downtime to less than one month
- ◆ Clearly identify contingencies in the work plan
- ◆ Address impacts of contingencies on funding

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## Conclusions

- ◆ Successful implementation of the Triad approach with limited and incremental funding requires:
  - ◆ Detailed planning
  - ◆ Clear statements of goals and contingencies
  - ◆ Frequent and effective communication with EPA's technical and management personnel and other stakeholders

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## Resources

- ◆ EPA Remedial Project Manager  
Joseph Gowers  
gowers.joe@epa.gov  
Phone: 212-637-4413
- ◆ Sharon Budney, CDM  
budneysl@cdm.com  
Phone: 732-590-4662
- ◆ EPA CERCLIS Website  
[http://cfpub.epa.gov/supercpad/cursites/  
csitinfo.cfm?id=0200986](http://cfpub.epa.gov/supercpad/cursites/csitinfo.cfm?id=0200986)

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