



Closed Loop Bioremediation Pilot Demo, NWIRP Bethpage, AOC 22 Project Status Update



13 September 2005

1

Agenda

- Project Team
- Project Objectives
- Project Status To-Date
- Conclusions and Next Steps



13 September 2005

2

Project Team

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Project Objectives

Primary Pilot Project Objective

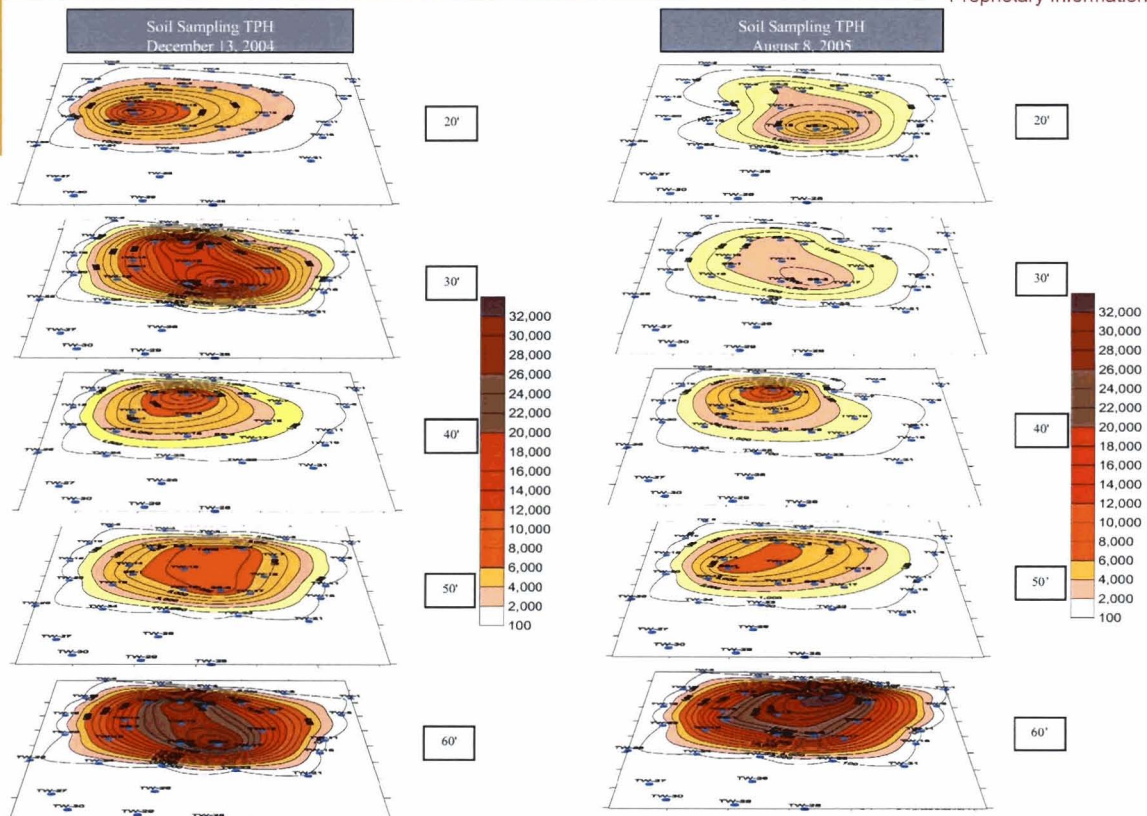
- Mass removal of fuel oil #4 and #6 from soil between 10-60 ft bgs.

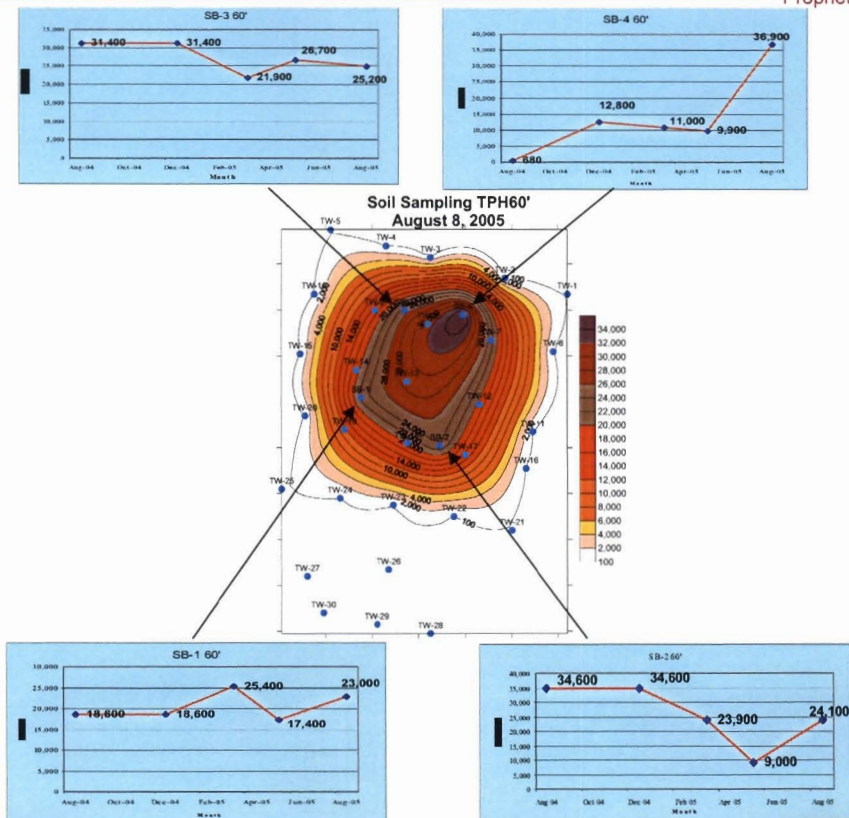
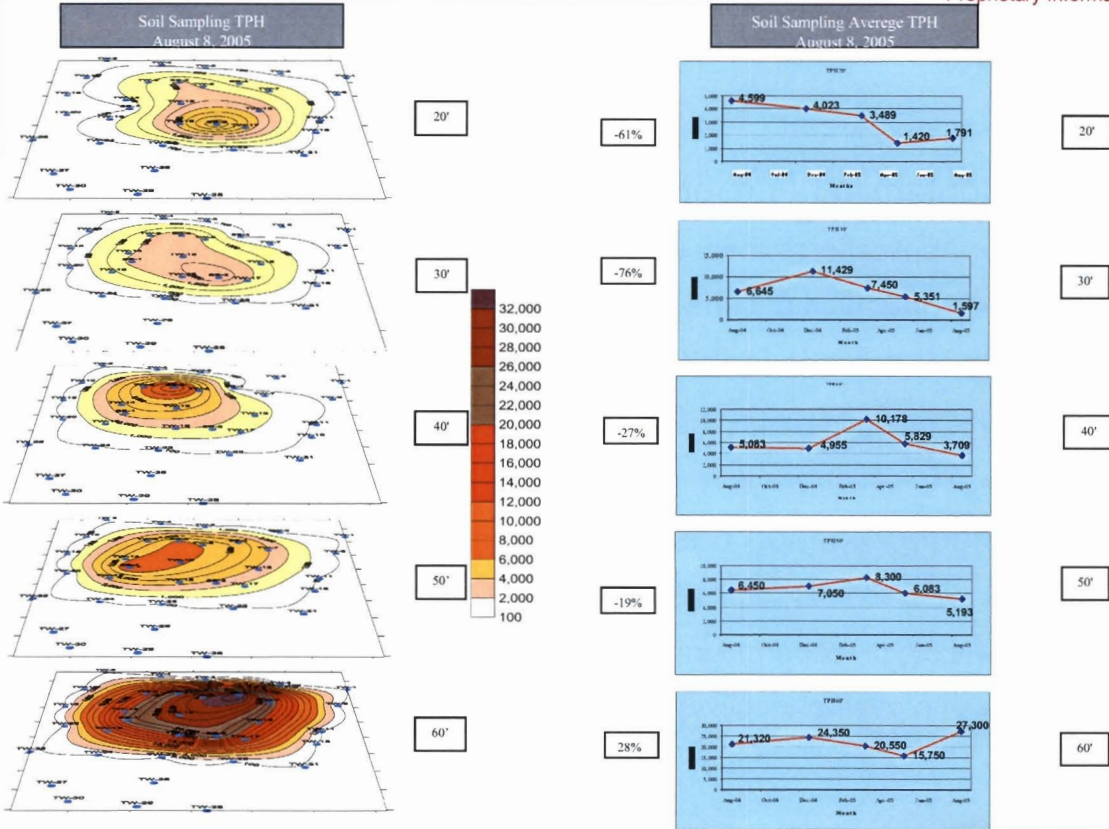
Supporting Project Objectives

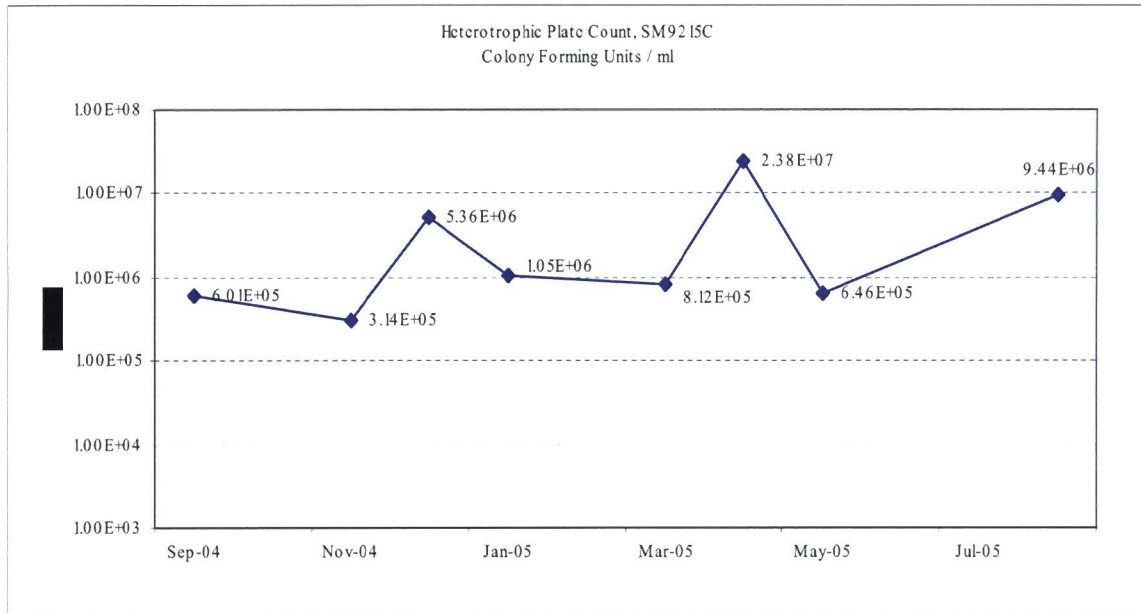
- ✓ Contaminant Desorption
- ✓ Contaminant Mobilization
- Contaminant Degradation

Project Status To-Date

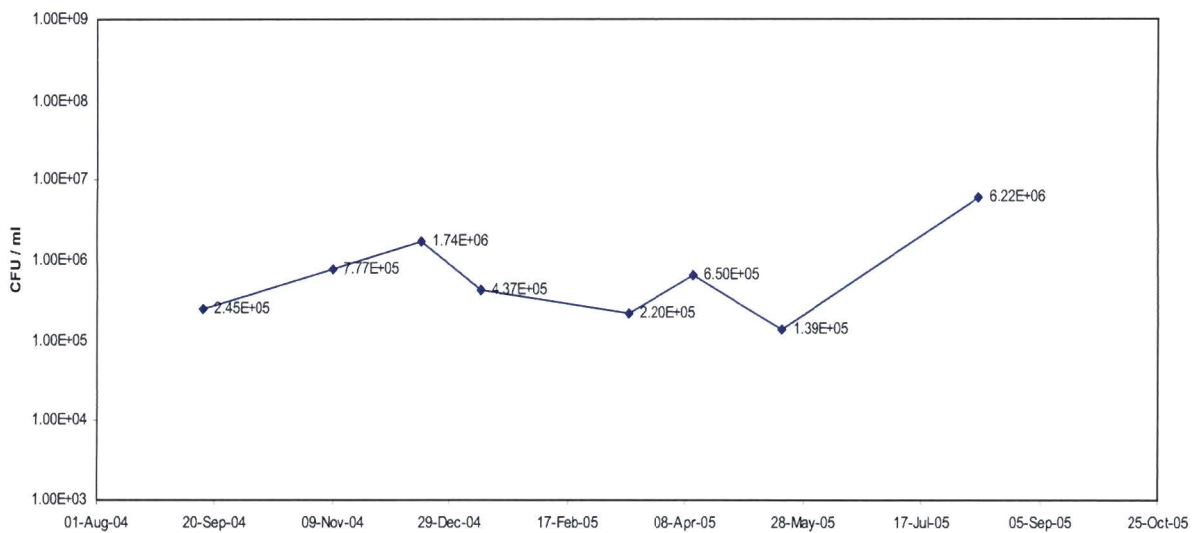
- Contaminant desorption was completed successfully
 - Application of heat using H₂O₂ + Fe to reduce viscosity
 - Application of surfactant to desorb contaminants
- Contaminant mobilization is on-going
 - Contaminant is mobile and moving downward via gravity
 - 20 – 40 ft bgs levels have confirmed TPH reduction from 27 -76%
- Biodegradation has begun
 - 22.4% TPH reduction in soil per May '05 sampling event
 - Low pH reported in June '05 has been buffered to pH > 6
 - Increase bio-activity has been confirmed







Mean Petroleum Hydrocarbon Degradable Population
Colony Forming Units / ml



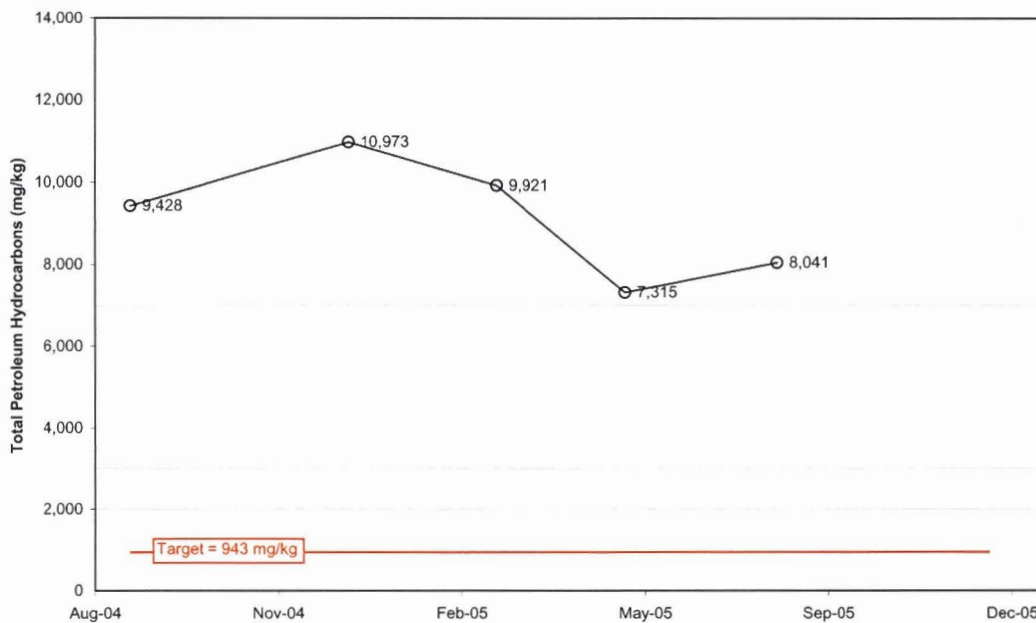
Project Status To-Date

Project Milestones

Design, Plans, Permits	2/04 – 7/04	100% Complete
Mobilization, System Installation	8/04 – 10/04	100% Complete
System Operation - Groundwater Sampling & Analysis - Soil Sampling & Analysis	10/04 – 9/05 Monthly Every 2 Months	75% Complete Last Sample 8/10 Last Sample 8/9
Final Report / Closeout	9/05 – 1/06	0%
Site Restoration	2/06 – 3/06	0%

Project Status To-Date

Mean Soil Analytical Results
CLB Pilot Demonstration, NWIRP Bethpage AOC 22



Conclusions and Next Steps

- **Conclusions**

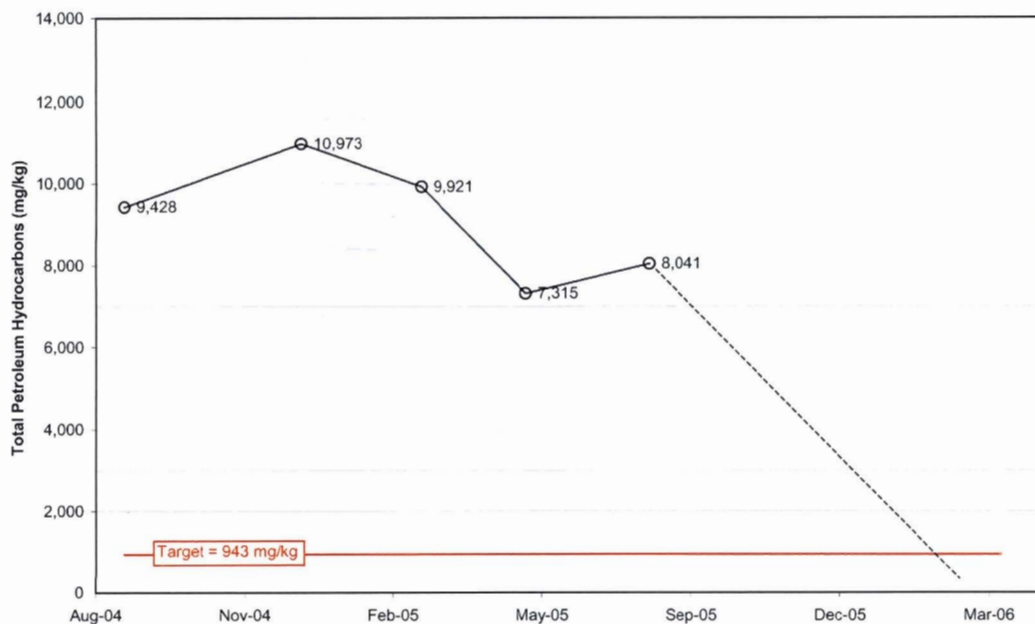
- Contaminant mobilization to 50-60 ft level has been confirmed
- Biodegradation in groundwater is accelerating
- 5 Months of additional time is required to reach 90% goal
- Additional time impacts budget by \$ 509,649.00

- **Next Steps**

- Need to increase free product recovery rate
- Need to oxygen enhance the sparging process

Conclusions and Next Steps

Mean Soil Analytical Results
CLB Pilot Demonstration, NWIRP Bethpage AOC 22



Questions and Discussion

File on eDOCs?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Site Name	NWIRP	
Site #	1-30-003B	
County	NASSAU	
Town	TOB	
Foitable	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Please Write The eDOC File		
Name Description	AOC22UPDATE	