Spring 2004

RPM News

▲ Remedial Project Manager News ▲

"Communicating Navy Installation Restoration Program News and Information Among All Participants"

In This Issue

Reminder:

Get a head start on your article for upcoming issues of RPM News.

Please provide a complete current and/or updated article from a previous story. A complete article includes text, photographs, captions, etc. Because EFD/As sometimes submit multiple articles, send them as separate files. Tentative deadlines for upcoming issues of RPM News:

Summer 2004	April 6
Fall 2004	August 6
Winter 2004	October 5

RPM NEWS

Remedial Project Manager News

Published By
NFESC

NAVFAC

Using Appropriated Funds

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High-Tech Solution To PCB Problem

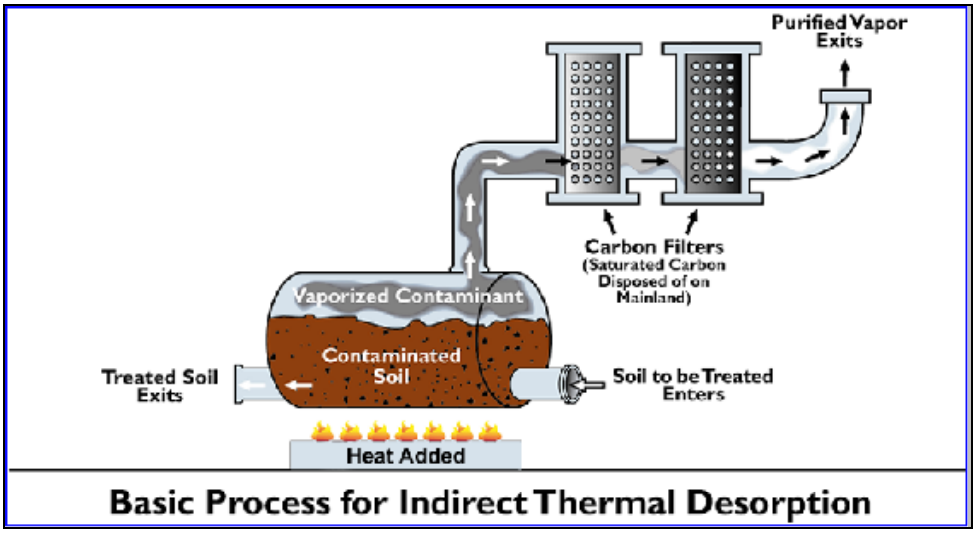


Figure 1.

The Environmental Department of the Naval Facilities Engineering Command, Pacific Division (PACDIV) at Pearl Harbor is known for its innovative approach to environmental engineering problems. The high-tech, Thermal Desorption Unit, which recently went on line at the former Barbers Point Naval Air Station (NAS) at Kalaeloa, Oahu is no exception.

On 21 November 2003, the Navy began treatment of PCB (polychlorinated biphenyl) contaminated soil using a technologically advanced Thermal Desorption Unit that safely removes PCBs from soil, thereby allowing treated soil to be safely returned to the ground. The process involves heating the soil to a high temperature, then filtering out the separated contaminants, which are collected for disposal at an EPA-approved landfill on the mainland. (Figure 1)

The contaminated soil moves up a 60-foot long conveyor belt and is dropped into three large drums, where it is heated to approximately 900 degrees for about 35 minutes. (Figure 2).

At this high temperature, the PCBs separate from the soil as vapor, then are cooled and liquefied again as sludge. The clean, sterile soil that once was contaminated is stockpiled on site for transport back to the Navy bases where it originated. The sludge is then run through a water-processing unit that separates the PCBs for disposal. For every 100 tons of soil that is treated, 99 tons comes back clean and ready for reuse.

An estimated 26,306 cubic yards of PCB-contaminated soil from 100 transformer sites at various Navy installations on Oahu is planned for treatment. Currently, soil from 21 sites and over 5,600 cubic yards have been excavated and is awaiting processing in the unit. Seventy-nine other transformer sites from other Navy bases will be excavated in the next few months, and the contaminated soil will be transported to Barbers Point for treatment.

Prior to 1977, PCBs were frequently used in electrical transformers. They were phased out after it was discovered to have potentially harmful effects on humans and the environment. Since then transformers containing PCBs have been removed or replaced, but years of use resulted in the release of PCBs into the soil.

Conducting cleanup of the PCB-contaminated soil presented unique challenges, because Hawaii does not have treatment or disposal facilities suitable to accept wastes generated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). PACDIV environmental engineers conducted a comprehensive evaluation of both on-site and off-site alternatives, including excavation and shipment of the soil to an

Environmental Protection Agency (EPA)-approved facility on the mainland.

In September 2000, an engineering evaluation/cost analysis (EE/CA) was completed, which evaluated treatment and disposal options for the contaminated soils. The objective of treatment or disposal is to provide long-term protection of the environment and reduce human health and ecological risks. Part of the EE/CA was to identify an appropriate treatment alternative, in order to reduce contaminant concentrations to established cleanup levels, and to allow reuse of the clean soil at island Navy bases. "The engineering report recommended a mobile thermal desorption unit," explained Janice Fukumoto, environmental engineer and PACDIV project manager. "The evaluation recommended that the soils be consolidated at one site for treatment, and that the treatment site should be on Navy retained property at the former NAS Barbers Point."

Figure 2. Thermal Desorption Unit

Treatment options that were evaluated involved equipment and manpower mobilization from the U.S. mainland, and off-island disposal options that ranged from $700 to $1,000 per cubic yard. "The use of the thermal desorption unit on Navy-retained land at Barbers Point will result in approximately $10 million of cost avoidance," Fukumoto added.

Once the desorption unit was determined to be the most cost-effective solution, while also meeting the goal of transferring clean soil back to a majority of the sites, PACDIV engineers and contractors conducted an evaluation of the logistics, routes and requirements of transporting the soil to the Kalaeloa site for treatment. "Close coordination with the State of Hawaii Health and Transportation Departments and the EPA was a must," said Fukumoto. "And we made sure we briefed the communities during the EE/CA process."

Restoration Advisory Board (RAB) meetings were held on a quarterly basis. The meetings' main goal was to solicit input about the plan from interested community members throughout the cleanup process. RAB members include: the EPA; State of Hawaii Department of Health; City and County of Honolulu Planning Department; and community associations, including Neighborhood Boards and environmental groups.

The project site is isolated and located far enough from surrounding communities that there should be no impact from noise, lighting or smell. "There will be a continuous 24/7 operations at the treatment site," remarked Brian Lamont, senior project manager for Environmental Chemical Corporation of Burlington, California, PACDIV's contractor for the project.

"However, the site is isolated and the only emission from the treatment unit itself is water vapor and carbon dioxide, so there will be no issue with smell," he added. The nearest housing area is located (on the former Naval Base) over half a mile away.

Transportation of the soil is in strict compliance with State Department of Transportation (DOT) regulations. All trucks and drivers must meet the requirements of DOT. The project has been coordinated with the EPA and the State Department of Health from the planning phase to the implementation phase. "The Navy's contract is very stringent on the issues regarding transport and treatment of the soil," Lamont explained. "During transport and treatment, strict dust control measures will be implemented and dust monitoring stations have been set up at strategic locations around the treatment facility."

It's the first time the unit is being used in Hawaii, and the $8.3 million project is scheduled to take approximately six to seven months to complete. The tentative completion date for the treatment process is June 2004.

Point of Contact

(808) 472-1008

Sequential Passive Cleanup Processes Lower Costs and Preserve Natural Resources

Naval Weapons Station Charleston

A mixed chlorinated aliphatic groundwater plume is being treated using sequential passive technologies (Figure 1) that minimize capital and operational costs and preserve natural resources. A release of perchloroethene (PCE), trichloroethene (TCE), and 1,1,1-TCA from a former underground tank and runoff from above ground operations onto land surface have resulted in excess of 100 mg/l concentrations of total chlorinated volatile organic compounds (CVOCs) in groundwater. Deployment of passive technologies that include both engineered and native phytoremediation, a permeable reactive barrier (PRB), and monitored natural attenuation (MNA) are being used to fully treat the source and plume of contamination.

Project Summary

The area of concern, Solid Waste Management Unit (SWMU) 12, is located adjacent to the former Building 88 (now demolished) at the Naval Weapons Station (NWS) Charleston. The building was used for treatment of wooden ammunition boxes as well as other operations involving chlorinated solvents. A 500-gallon underground storage tank (UST) used for waste collection was located next to the building. After the contents of the tank were pumped out, the tank was removed and inspected. Evidence of leaks in the storage tank was detected, which would allow the solvent containing fluids to enter the groundwater.

CVOCs at high dissolved concentrations and/or in the form of a dense non-aqueous phase liquid (DNAPL) distributed as ganglia are located in the low permeability sediments from land surface to approximately 10 feet below land surface. To treat the contamination without encouraging the downward migration of these solvents into the lower more permeable formation in the source area, loblolly pine trees were installed to create a mechanism for direct uptake, phytovolatilization and improve soil structure that will enhance biodegradation in the newly formed rhizosphere. The source zone groundwater is biologically degrading naturally through electron donors supplied by the abiotic generation of acetate from 1,1,1 Trichloroethane (1,1,1-TCA) and the naturally occurring carbon in the aquifer sediments.

Immediately down gradient of the source area, a permeable reactive barrier (Figure 2) consisting of zero valent iron (ZVI) is used to treat high CVOC groundwater concentrations that have the potential to

FACILITY:
Naval Weapons Station Charleston
Goose Creek, SC
Established 1941
16,868 acres

EFD:
Southern Division

SITE DESCRIPTION:
Performs fleet, shore, and logistic support for assigned weapons and weapon systems

TEAM CONTACT:

SOUTHDIV

(843) 820-7482

NWS, Charleston

(843) 764-4010

SOUTHDIV

(843) 820-5561

SCDHEC

(803) 896-4078

SCDHEC

Mike Danielsen

TECHNOLOGIES:
Permeable Reactive Barrier
Engineered and Natural Phytoremediation
Monitored Natural Attenuation

CONTAMINANTS:
1,1,1 Trichloroethane
1,1dichloroethylene
Perchloroethylene
Trichloroethylene
cis1,2 dichloroethylene
vinyl chloride

ACTION LEVELS:
MCLs. Prevent further contaminant migration.

LEGAL DRIVER:
Resource Conservation and Recovery Ac (RCRA)

exceed the natural attenuation capacity of the aquifer. This ensures that the pollutant load to the downgradient portion of the flow zone is cut off and the detached plume down gradient of the PRB can be naturally attenuated prior to discharge to a freshwater marsh. A mature lowland forest that incorporates direct uptake for phytovolatilization is part of the attenuation processes (Figure 3) beyond the PRB. Lower chlorinated ethenes dichloroethylene and vinyl chloride (DCE and VC) appear to be attenuating at the most down gradient fringe of the plume through both aerobic and anaerobic (iron-reducing) microbial oxidation that is controlled by variations in terminal electron accepting processes (TEAPs) that change with recharge.

Taking advantage of the naturally occurring passive processes (MNA and phytovolatilization) allowed the project team to enhance the existing processes using low energy techniques (PRB and engineered phytoremediation) such that treatment of the plume should be complete prior to discharge to the freshwater marsh. In addition, impact to the landscape was minimized as all treatment processes are part of the natural environment or are below ground. Destruction of the lowland forest was not necessary and a new stand of trees was planted consistent with the adjacent forest. Since no mechanical systems are required, long-term costs are primarily limited to performance monitoring.

Regulatory Involvement

Members of the partnering team include representatives from the NWS Charleston, Southern Division (SOUTHDIV) Naval Facilities Engineering Command (NAVFAC) and the South Carolina Department of Health and Environmental Control. The responsiveness of the team and willingness to consider alternative attenuation mechanisms allowed the incorporation of processes not commonly considered in remedy selection. The team effort resulted in an optimal solution that minimized life-cycle costs.

Cost Avoidance Measures

Reliance on passive technologies avoided the capital, operation and maintenance costs of mechanical operations associated with other commonly deployed remedies.

Project Successes

- Avoidance of more aggressive engineered remedies that had the potential to mobilize contaminants toward deeper migration.
- No operational costs and minimal maintenance due to the passive nature of the cleanup processes used.
- Preservation of natural resources (lowland forest and marsh) that are being used as part of the remedy.
- Knowledge gained from this site will assist the project team in their evaluation of naturally existing phytoremediaton as part of the remedy at several other sites on the installation that have similar contaminants and site conditions.

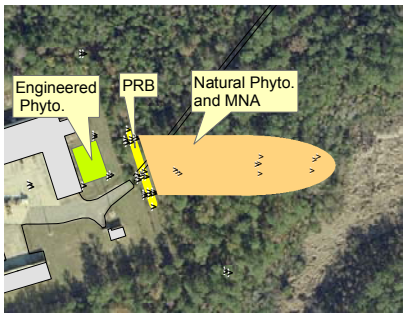


Figure 1: Sequential Treatment Processes.

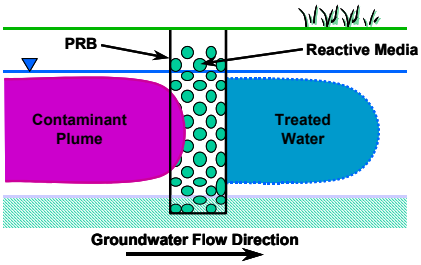


Figure 2: Permeable Reactive Barrier.

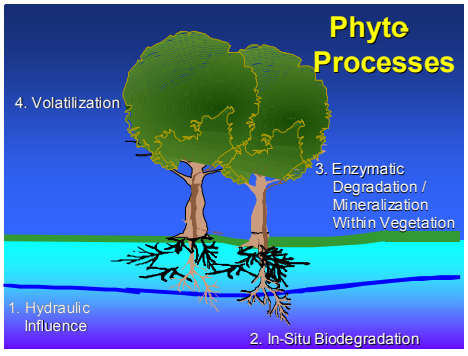


Figure 3: Phytoremediation Processes.

Lessons Learned

Mature forests may have a significant impact on the natural attenuation capacity of shallow groundwater systems. This component of the environments ability to assimilate contamination is not currently addressed in existing natural attenuation protocols. Sites with similar conditions and contaminants should consider these processes as part of the remedy.

Ongoing Work

The performance evaluation associated with the site is expected to more clearly elucidate some of the attenuation mechanisms, which may have important implications for similar sites. The role of changing TEAPs at the fringe of the plume may have significance as it relates to the microbial communities ability to degrade the contamination at this site.

Collaboration

Remedy selection was primarily performed by SOUTHDIV and the U.S. Geological Survey (USGS) are carrying out the performance evaluation. The US Forest Service measured transpiration rates of the lowland forest. CH2M Hill oversaw the design and construction of the PRB. Documentation for the CMS was provided by TTNUS.

Biosparging With Air For Treatment Of MTBE

Former Navy Exchange Gas Station, Novato, California

The Southwest Division of the Naval Facilities Engineering Command (SWDIV) contracted with Battelle to design, install, and operate a treatment system for methyl-*tert*-butyl ether (MTBE) dissolved in groundwater at the Former Underground Storage Tank (UST) Site 957/970 (the Site) on Department of Defense Housing Facility (DoDHF) Novato, California. In the early 1990s, DoDHF Novato was scheduled for closure under the Base Realignment and Closure (BRAC) program. SWDIV has conducted extensive investigation activities at the Site to fully characterize the extent and distribution of (MTBE), benzene, and other gasoline constituents in soil and groundwater. This characterization data was used to conduct a human health risk assessment in 2001 according to requirements outlined by the California Department of Toxic Substances Control (DTSC). The results of the risk assessment indicated that the property comprising the Site was suitable for its intended use. Though the Site was found to be safe, the San Francisco Bay Area Regional Water Quality Control Board (RWQCB) passed a cleanup and abatement order in July of 2000 (Order No. 00-064) which required SWDIV to "stabilize and contain the higher concentration MTBE groundwater plume on the currently Navy-owned portion of the Site."

The Order led SWDIV to recommend biosparging with air only to enhance the aerobic biodegradation of MTBE in the area of higher groundwater concentrations. Past remedial activities conducted at the Site, in addition to the results of treatability studies, found that MTBE was aerobically biodegradable in the DoDHF Novato site-specific media. The biosparging system was proposed to operate in the area of higher MTBE concentrations until the performance goals were met or system operation was no longer cost-effective. The remedial design included aggressive monitoring of groundwater and soil gas to ensure safe and effective system operation. In the event that gasoline constituent concentrations in soil gas approached a level that would present an unacceptable risk to nearby receptors, an SVE system was designed and installed as a contingency measure. Following negotiations between the SWDIV and regulatory agencies about system monitoring locations, the SVE contingency plan, and the exit strategy for system operation, the regulatory agencies approved the recommended remedial approach.

Biosparging Technology Description

Biosparging is an in situ remediation technology that uses indigenous microorganisms to biodegrade organic constituents in the saturated zone and the capillary fringe. In biosparging, air (or oxygen) and nutrients (if needed) are injected into the saturated zone to increase the biological activity of the indigenous microorganisms. Biosparging can be used to reduce concentrations of petroleum constituents that are dissolved in groundwater, adsorbed to soil below the water table, and within the capillary fringe. The biosparging system at DoDHF Novato, shown in Figure 1, consists of 49 air injection wells, 8 SVE (contingency) wells, 8 groundwater wells to monitor system performance, and 20 soil-gas probes to monitor the effectiveness and safety of the system.

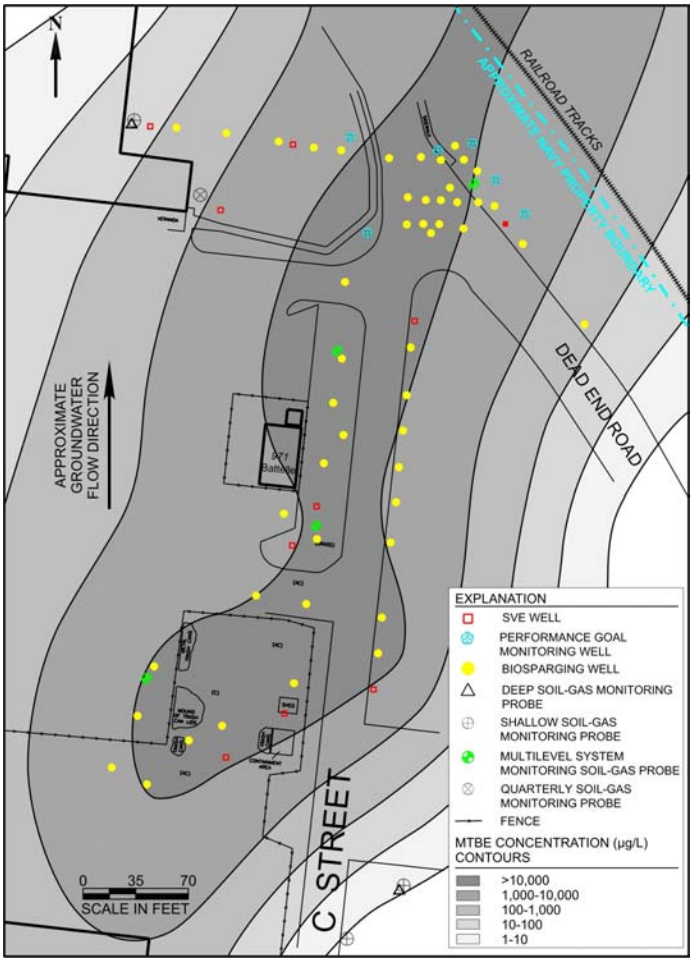


Figure 1. Biosparging System Layout at DoDHF Novato.

The biosparging system at the Site includes a barrier of air-injection wells installed near the Navy property boundary. Air-injection wells were also installed upgradient (south) of the barrier, in areas of higher MTBE concentrations such that the duration of system operation could be decreased and a stable to decreasing MTBE plume could be established on Navy property in a shorter time frame. The majority of air-injection wells were installed in permeable soil deposits. These deposits are suspected to exist along an old streambed beneath the Site that seems to conduct most of the groundwater flow toward the north.

Air is supplied to the injection wells by a 30-horsepower (hp) pressure pump designed to deliver at least 25 pounds per square inch (psi) air pressure and 10 cubic feet per minute (cfm) airflow rate per sparging well. Although the system can accommodate this high flowrate capacity, the biosparging system operates at a target flowrate of just 2 to 6 cfm per sparging well, which provides just enough airflow to enhance aerobic biodegradation, but minimizes stripping of hydrocarbons from the saturated zone. The contingency SVE system, in place to remove hydrocarbon vapors should concentrations in soil gas indicate that potential receptors could be adversely impacted, has not been required over 15 months of operation.

To monitor system operation and safety, field data including sparging flowrates, injection pressures, groundwater elevation, dissolved oxygen (DO) concentrations, soil-gas measurements that include volatile organic compounds (VOCs), oxygen, and carbon dioxide are collected from the system on a regular basis. In addition to these field parameters, soil-gas and groundwater samples are collected on a monthly basis and analyzed at an off-site laboratory.

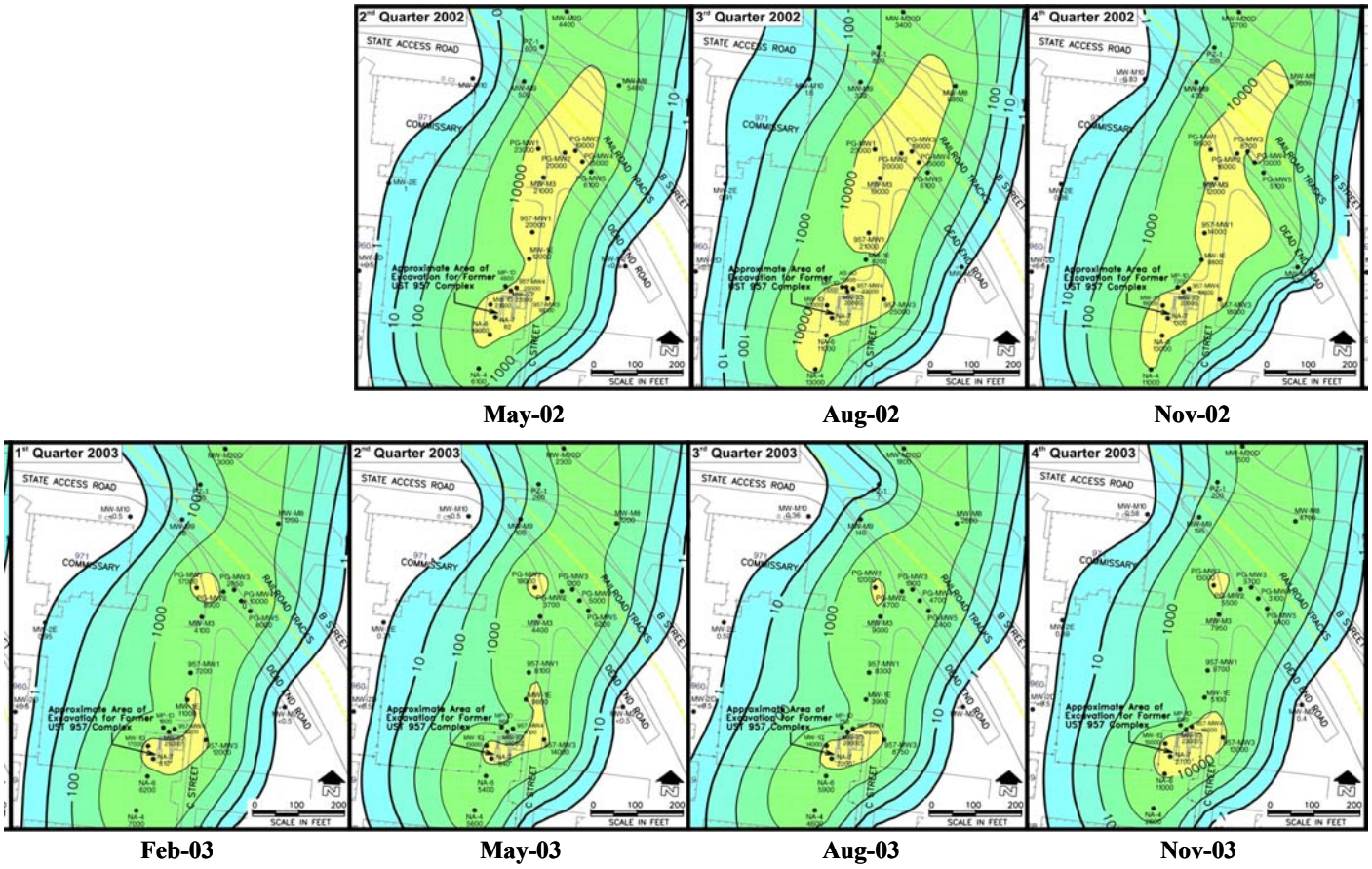
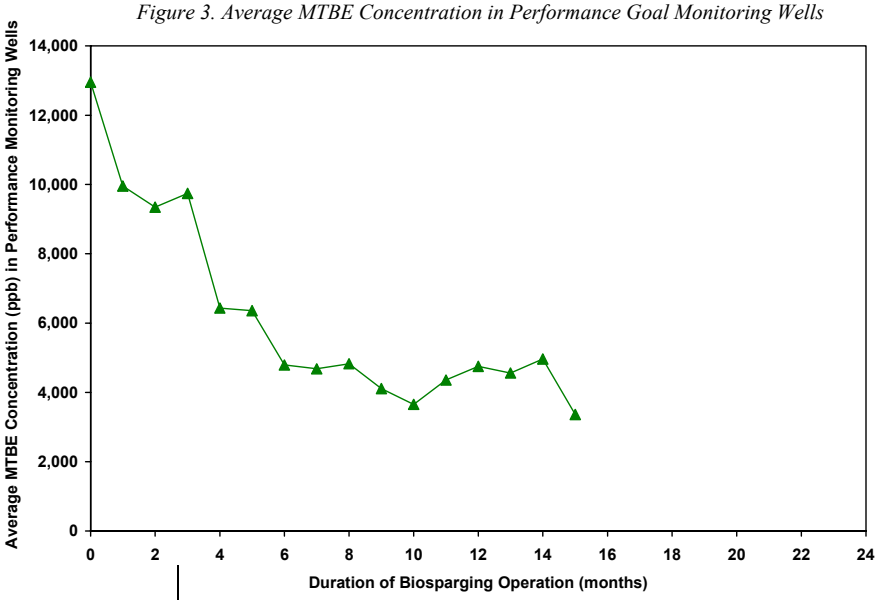


Figure 2. MTBE Plume Contours in the Biosparging Treatment Area.

Figure 3. Average MTBE Concentration in Performance Goal Monitoring Wells



Results

The DoDHF Novato biosparging system has been operational from September 2002 to January 2004. Based on the data collected since system startup, the biosparging system is operating as it was designed to perform. Biodegradation that is occurring within the saturated zone and deeper portions of the vadose zone is sufficiently controlling gasoline constituents in the subsurface. MTBE concentrations in groundwater are decreasing with some production (but no significant accumulation) of degradation byproducts (e.g., *tertiary*-butyl alcohol [TBA] and *tertiary*-butyl formate [TBF]) over 15 months of system operation. Significant decreases in MTBE concentrations exist in some performance monitoring wells that are located in (or near) the old streambed. The laboratory results and field measurements of gasoline constituents in soil gas indicate that significant hydrocarbons are not being added to the vadose zone within the treatment area or along pathways to nearby receptors.

Figure 2 shows MTBE plume maps in the biosparging treatment area. It is evident that the higher MTBE concentrations (>10,000 parts per billion [ppb]), represented by yellow, are decreasing through biosparging system operation. The total area covered of MTBE concentrations >10,000 ppb has decreased significantly over 15 months of system operation, which will allow SWDIV to establish a stable to decreasing MTBE plume on Navy property and meet the requirements of the RWQCB cleanup and abatement order in a timely manner.

Figure 3 shows the average MTBE concentration in the performance goal monitoring wells during system operation. Over 15 months of operation the average MTBE concentration in the performance monitoring wells has decreased by 74%. System adjustments are currently being made to ensure that optimal treatment occurs. After the biosparging system reduces MTBE concentrations to a point of diminishing returns and operation is no longer cost-effective, SWDIV will confer with the regulatory agencies about shutting down the system.

Conclusions

The biosparging system at DoDHF Novato has safely and successfully reduced concentrations of MTBE over 15 months of operation. The system will continue to operate until the performance goals are met or the system is no longer treating MTBE cost-effectively. The teamwork accomplished between the DON and regulatory agencies during negotiations about the remedial approach has allowed a relatively innovative treatment technology (biosparging with air injection only) to be applied in the field. Biosparging has been proven to reduce MTBE concentrations in groundwater at the Site, which will ultimately allow the SWDIV to meet the RWQCB Order requirements and proceed with property transfer.

Point of Contact

(619) 532-0919

Technology Transfer (T2) News

Visit Our Web Site Address:
www.ert2.org

Learn About Advances in In Situ Chemical Oxidation

In situ chemical oxidation (ISCO) involves the injection of a strong oxidizing agent into groundwater to destroy or degrade organic chemicals. The oxidants degrade contaminants by converting them to benign compounds such as CO_2, H_2O, mineral salts, and some organic intermediates. ISCO can be used to treat dense non aqueous phase liquid (DNAPL) as well as plume "hot spots" with relatively elevated dissolved-phase contaminant concentrations. ISCO is often applied as part of a treatment train approach for source zone cleanup combined with monitored natural attenuation (MNA) for dissolved phase plume treatment.

Contaminants amenable to ISCO treatment include perchloroethene (PCE), trichloroethene (TCE), some polycyclic aromatic hydrocarbons (PAHs), and other compounds. Because of their availability, relatively low cost, and other favorable characteristics, potassium permanganate and Fenton's reagent are the two most common oxidants that have been used for in situ groundwater treatment. Permanganate is applied as a 1 to 5% solution prepared from potassium permanganate ($KMnO_4$) crystals that are delivered in bulk to the site. Fenton's reagent is produced on site by adding an iron catalyst to a hydrogen peroxide solution. A 50% solution of peroxide is common for this application. The hydrogen peroxide and ferrous iron combine to generate hydroxyl free radicals, which are a highly reactive species. The hydroxyl free radical cleaves chemical bonds and non-selectively oxidizes organic compounds resulting in the formation of successively smaller chained hydrocarbon compounds.

A web-based training tool has been developed to present the most recent advances in the understanding of ISCO applications. The tool summarizes the factors that affect the performance of ISCO in the field and its relative advantages and disadvantages. The tool also showcases recent case studies and lessons learned from the field application of permanganate and Fenton's reagent. This new tool will be launched in the spring of 2004. To view this and other web-based training tools, please visit the Technology Transfer web site at www.ert2.org.

Explore Ways to Accelerate Site Close Out and Optimize Your Site

The Department of Navy, along with other Federal agencies, is participating in a conference on optimization issues in Dallas, Texas. The conference is titled *Accelerating Site Closeout, Improving Performance, and Reducing Costs Through Optimization* and it will be held from 15-17 June 2004. The objectives of the conference are as follows:

- Outline long-term remediation liabilities and optimization needs and opportunities.
- Disseminate existing and emerging optimization strategies, technologies, tools, and science.
- Communicate lessons learned and identify technical, institutional, contractual, and other enhancements or encumbrances to achieving positive optimization results.
- Present remedial optimization within the context of site wide and multi-site management programs.

The presentations will be selected to communicate lessons learned and to focus on optimization strategies and technologies employed in the field. It is recommended that registration and hotel accommodations be completed prior to 25 May 2004. There is no registration fee to attend the conference. For more information, please visit the conference web page at http://clu-in.org/siteopt/siteopt.htm.

Point of Contact

(805) 982-2636

The 2004 Cleanup Conference

A Great Success!!

These were the sentiments expressed by many of the conference attendees who felt this year's conference was one of the best and most pertinent. The annual Navy and Marine Corps (N&MC) Cleanup Conference was held in Oxnard, California on 10, 11, and 12 February 2004. The Naval Facilities (NAVFAC)-sponsored conference provides an opportunity for those involved in environmental cleanup programs to share information and successes. During the "Washington Perspective" session, representatives from Assistant Secretary of the Navy (ASN), Chief of Naval Operations (CNO), and NAVFAC Headquarters (HQ) provide an update on the overall status of our cleanup program, the latest issues and policies, and address questions.

Updates on progress were given by the following NAVFAC Work Groups: Installation Restoration (IR) Managers, Alternative Restoration Technology Transfer (ARTT), Remedial Action Operation/Long-Term Management (RAO/LTMgt), Geographical Information Systems (GIS), Installation Restoration Records Management (IRRM), Risk Assessment (RAW), Munitions Response Program (MRP), and Cost-To-Complete (CTC).

Over 70 technical presentations on actual cleanup projects involving innovative technologies, contaminated sediments, GIS and web tools, contracting, risk assessment, legal issues, site closeout processes, vapor intrusion, perchlorate, and the new MRP were attended by over 200 N&MC environmental professionals. Training sessions for project managers were offered on the Federal Laboratory Accreditation Program, chromatograms, web-based tools, perchlorate chemistry and perchlorate analytical methods.

The proceedings for the conference can be found on the web at:
http://enviro.nfesc.navy.mil/erb/erb_a/support/cleanup_conf/2004conf/proceedings/2004-presentations.htm

For conference attendees, the value-added benefits of participating include the networking, sharing lessons learned, learning about technology transfer opportunities, and discussing the latest issues and problems with other N&MC project managers from around the country.

The 2004 Environmental Restoration Awards (the"Drummies") were presented to the winners by Dave Olson of CNO. And the winners are:

Atlantic Division	Winoma Johnson
Pacific Division	Kay O'Keefe
Southern Division	Dan Waddill
Southwest Division	William E. Collins
Northeast Activity	Todd Bober
Chesapeake Activity	Jennifer Melton
Northwest Activity	Dina Ginn
West Activity	Richard Powell
NFESC	Carmen Lebron

In addition, Special Drummies were given to Geoff Cullison and Wanda Holmes from CNO for their many years of support of the IR Program.

Note: Conference photos will be posted on the web version in a few weeks.

Point of Contact

(805) 982-4858

New BAA Abstracts Available

The latest book of eligible Broad Agency Announcement (BAA) Abstracts has been posted on the Naval Facilities Engineering Service Center (NFESC) BAA page on the Defense Environmental Network & Information eXchange (DENIX) web site and is available for use by Remedial Project Managers (RPMs). These new abstracts, combined with over 200 ones previously submitted, provide solutions to reduce environmental impacts from current and past Navy operations. The BAA program solicits abstracts for restoration, conservation of resources, unexploded ordnance (UXO), pollution prevention and compliance issues and covers a broad spectrum of contaminants. Issuing a contract under a BAA abstract is a simple process.

To go directly to all the eligible abstracts on the DENIX web site, click on http://www.denix.osd.mil/denix/DOD/News/Navy/BAA/baa.html. After logging in to DENIX, click on Technologies and Methodologies:

The NFESC BAA program is a streamlined and flexible contracting alternative that enables the Navy to conduct a search for and identify innovative environmental technologies and methodologies that provide a solution to a problem, or provide a better, faster, or cheaper application in Environmental Assessment, Restoration, and Cleanup; Conservation of Natural Resources; Munitions & Explosives of Concern; Pollution Prevention; and Environmental Compliance.

The Navy's BAA solicits abstracts from academia, private vendors, Government contractors, and national laboratories. The abstracts are thoroughly evaluated by a technical evaluation board of NFESC engineers and scientists to ensure that they meet the criteria stated in the BAA. Abstracts that are accepted into the program are posted on the DENIX web site and are available for contract award throughout the Department of Defense (DOD).

The program allows you direct access to over 200 contractors. To access a contractor through one of the approved abstracts, you only need to provide project specific requirements. Contracts are awarded without sole source or competitive solicitation.

Point of Contact

More information on the NFESC BAA program can be found at
http://enviro.nfesc.navy.mil/erb/support/navy_contracts/baa.htm

NFESC POC for further questions or to begin a contract action:

(805) 982-1551

Remediation Innovative Technology Seminar

RITS
Spring 2004

Overview

The **Remediation Innovative Technology Seminar** (RITS) provides training on new and innovative technologies, methodologies, and guidance under the Navy's Environmental Restoration Program. The Naval Facilities Engineering Command (NAVFAC) sponsors RITS in coordination with its Engineering Field Divisions (EFDs), Activities (EFAs), and its Engineering Service Center (ESC). RITS training serves as one of many ways the Navy promotes innovative technologies to achieve site restorations more efficiently, cost effectively, and with higher performance.

While the RITS is developed primarily for the Navy's Environmental Restoration and Base Realignment and Closure (BRAC) environmental professionals, it is also available to other Department of Defense (DOD) personnel, the Navy's environmental cleanup contractors, and environmental regulators.

Synopsis

RITS Spring 2004 will focus on optimization of each phase of the Navy Installation Restoration Program (IRP) including remedy evaluation, selection, design, operation, and longterm management. Information will be shared on newly available technologies for improved sample collection, data analysis, and modeling to support investigation, performance monitoring, and longterm management. Discussions will cover site closeout and the documentation required to demonstrate achieving the site closeout milestone.

Mark your calendar now!

Schedule

13 April 2004 Tuesday Pacific Division
16 April 2004 Friday EFA Northwest
20 April 2004 Tuesday Southwest Division
27 April 2004 Tuesday EFA Northeast
29 April 2004 Thursday Southern Division
11 May 2004 Tuesday Atlantic Division
13 May 2004 Thursday EFA Chesapeake

Visit RITS on the Web for registration information.

Point of Contact

(805) 982-5575 voice or 551 DSN
(805) 982-3694 fax

CECOS Training Courses

Date	Course Name	Location
4-6 May 2004	Ecological Risk Assessment	San Diego, CA
22-24 Jun 2004	Environmental Negotiation Workshop	Norfolk,VA
8-10 Jun 2004	Health and Environmental Risk Communication	San Diego, CA
27-29July 2004	Navy Environmental Restoration Program	Honolulu, HI
20-22 July 2004	Health and Environmental Risk Communication	Charleston,SC
5-7 May 2004	HAZWOPER Refresher Course	Honolulu,HI
27 May 2004	HAZWOPER Refresher Course	Silverdale, WA
19 May 2004	HAZWOPER Refresher	Philadelphia,WA
21 May 2004	HAZWOPER Refresher	Charleston, SC
3 Jun 2004	HAZWOPER Refresher	Charleston, SC
14 Jun 2004	HAZWOPER Refresher	Pt Hueneme, CA
9-13 Aug 2004	40 Hrs HAZWOPER	San Diego, CA

To obtain more details on these courses or to register on line, please visit CECOS website at:
https://www.cecos.navy.mil

Request for quota can also be addressed to the:
CECOS Registrar
3502 Goodspeed St. Ste 1
Port Hueneme, CA 93043
(805) 982-2895
(805) 982-2918 (Fax)

Point of Contact

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