

NAS NORTH ISLAND - NAVY REGION SOUTHWEST NAVY ENVIRONMENTAL LEADERSHIP PROGRAM

CLEANUP

EET, INC. TECHXTRACT™ CHEMICAL DECONTAMINATION PILOT STUDY

LEAD ACTIVITY

Naval Aviation Depot (NADEP) North Island

STATUS

Complete

MISSION

Decontamination of structures and equipment

REQUIREMENT

Decontamination of metals and organics from various media is usually conducted with technology that requires either removal or destruction of the media. A technology is required that will remove the contaminants without destroying the contaminated material's surface or substrate.

DESCRIPTION

Under the Southwest Division Naval Facilities Engineering Command (SWDIV) New Technologies (NT) innovative technologies solicitation, NELP has evaluated the TechXtract™ decontamination process developed by EET, Inc. The TechXtract™ technology is used to remove metals, volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), and radionuclides from concrete, brick, asphalt, wood, iron, steel, and other metals. The TechXtract™ technology is a three-stage process using three proprietary chemical formulas, which are tailored to material-specific characteristics.



TechXtract™ Demonstration

The process is repeated in multiple cycles. Each cycle includes application, penetration and extraction. The TechXtract™ mixture is sprayed onto the treatment surface as a fine mist. Then the chemicals are worked into the surface using an abrasive pad. Then, a rinse formula is sprayed onto the treatment surface. Finally the chemicals and

contaminants are removed from the treatment area using a wet vacuum. The spent-treatment chemicals and contaminants collected in the vacuum are transferred to a waste disposal container and disposed of in accordance with applicable requirements.

EET, Inc. has completed a demonstration pilot study that involved testing the TechXtract™ process in two areas: (1) concrete contaminated with hydraulic oil and fuels, and (2) concrete contaminated with heavy metals. By extracting the contaminants from the surface and subsurface, the formerly contaminated materials can be left in place, reused, or recycled, rather than disposed, resulting in potential cost savings to the Navy.

PWC was trained on the TechXtract™ process in October 1997, and now offers the TechXtract™ service to Navy customers in the San Diego area.

BENEFITS

- The TechXtract™ process can be exported through the PWC immediately
- Materials can be left in place, reused, or recycled, rather than disposed of, resulting in cost savings to the Navy

ACCOMPLISHMENTS/CURRENT STATUS

Date	Activity
APR 1996	Final demonstration work plan issued
JUN 1996	TechXtract™ chemical decontamination pilot study completed
OCT 1997	PWC TechXtract™ service to Navy customers in San Diego area
APR 1997	Final demonstration report completed

FUTURE PLAN OF ACTION & MILESTONES

Not applicable

COLLABORATION/TECHNOLOGY TRANSFER

Under the SWDIV NT innovative technologies program, NELP evaluated the TechXtract™ decontamination process developed by EET, Inc. After being trained in the process and application, PWC is offering the TechXtract™ service to Navy customers in the San Diego area. The EET TechXtract™ technology was evaluated under the U.S. Environmental Protection Agency (EPA) Superfund Innovative Technology Evaluation (SITE) Program in 1997 on Ford Island at the Pearl Harbor Naval Complex in Hawaii. The evaluation was designed to apply the technology to approximately 124 square feet of PCB-contaminated concrete. The results of the evaluation indicated that the TechXtract™ technology was able to reduce the high surface PCB concentrations by greater than 99 percent. The evaluation was accomplished through a partnership among the EPA SITE Program, Pacific Division Naval Facilities Engineering Command (PACDIV), and PWC.

BIBLIOGRAPHY

- EET, Inc. TechXtract™ Decontamination Demonstration Project Work Plan. 1995.

- Bechtel National, Inc./EET, Inc., Draft NELP Technology Demonstration Quality Assurance, Project Plan. 1996.
- Bechtel National, Inc./EET, Inc., NELP Technology Draft Demonstration Report. June 1997.

RELATED GOVERNMENT INTERNET SITES

None available

RELATED NAVY GUIDEBOOK REQUIREMENT

- 02039 Solid Waste Management Unit (SWMU) Cleanup
- 06031 PCB Spill Cleanup
- 02014 Closure Performance Standards & Decontamination of Less Than 90-Day Hazardous Waste Management Units

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