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Technology Implementation

Fielding Environmental Solutions

November 2003

Message 65

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Introduction

The U.S. Army Environmental Center (USAEC) is dedicated to enhancing readiness, training and the soldier's well being through sound stewardship of the environment. We are happy to provide our 6,500 subscribers the November 2003 edition of Fielding Environmental Solutions. Feel free to forward this message to others!

Mention of commercial products or services does not constitute endorsement by the U.S. Army Environmental Center or the Department of Defense.

Don't forget that we are always willing to promote and further environmental success stories. To submit your success story, contact the technology transfer hotline at T2Hotline@aec.apgea.army.mil. For further questions regarding this newsletter or any articles herein, please contact USAEC through our Environmental Hotline at 1-800-USA-3845.

Innovative Uses of Recycled Tank Tracks for Erosion Control

Solid waste diversion has become an environmental requirement for the U.S. Army as the decline of available resources necessitates the need for improved recycling strategies and solid waste management programs. Finding creative reuses for materials on military installations can free up valuable space in storage yards and landfills, reducing acquisition costs of new material, and increasing the stability of rehabilitation projects.

Fort Carson, Colorado, is one example of an installation with an innovative recycling program. This installation generates nearly 2 million pounds of unserviceable tank tracks each year, occupying a space equal to 1,500 square feet in the Defense Reutilization and Marketing Office (DRMO) yard on-post. It may take several years to find a scrap metal buyer willing to purchase unserviceable tracks. Fort Carson was able to reinforce helicopter pads, highly trafficked stream crossings, and armor culverts by reusing the steel cable and tank tracks from their DRMO yard. Additionally, the cross-functional pollution prevention

team at Fort Carson was able to stabilize a highly eroded stream bank using tank tracks.

To learn more about Fort Carson's tank track recycling program visit the U.S. Army Corps of Engineers "Public Works Technical Bulletin" at <http://www.hnd.usace.army.mil/techinfo/CPW/pwtb.htm>.

Evaluation of Zymo Bacteria-Based Parts Cleaner

Increasing awareness of the environmental, safety, and health conditions surrounding the handling and disposal of traditional parts-cleaning solvents has stimulated a search for less-harmful alternative cleaning solutions. Although non-hazardous aqueous cleaners present a more acceptable solution, these cleaners often create hazardous byproducts. Bacteria based cleaners offer a solution to some of these problems by converting contaminants into harmless compounds. The Zymo™ Bacteria-based parts washer was of interest to the U.S. Army Construction Engineering Research Laboratory. The Zymo™ Bacteria-based parts washer was evaluated to ascertain its ability to remove contaminants, cleaning effectiveness, reliability, ease of use, and economic utility.

The Zymo™ 20022 parts washer was purchased from ABS, Inc., and installed and operated at a U.S. Army Aberdeen Test Center automotive repair facility. It was installed and operated again at Redstone Arsenal. At times the system exceeded metal limits in the cleaner, but the 25-gallon parts washer performed effectively enough to meet maintenance shops standards and kept maintenance requirements relatively low compared to traditional solvents throughout the testing period.

For more information on this product please reference Aberdeen Test Center Report No. ATC-8204, TECOM Project No. 8-CO-160-000-048, "Aqueous Based Bacterial Cleaner Evaluation Support to Corps of Engineers Research Laboratory." Information on this product and other technical reports can be found on the U.S. Army Corps of Engineers "Public Works Technical Bulletin" at <http://www.hnd.usace.army.mil/techinfo/CPW/pwtb.htm>.

NAVSUP's Shop Towel Re-use Program

In 2000, before instituting their Shop Towel Re-use Program, the Naval Supply Systems Command reported more than 750,000 tons of waste rags generated during operational and intermediate level aviation maintenance. From 1999 to 2001 shore-side aviation maintenance operations generated nearly two million pounds of waste rags from the cleaning of hazardous materials such as paint waste, conversion coatings, stripers, grease, and oil. Previously standard-issue baled rags and paper wipes soiled with hazardous waste were one of the largest contributors to the Navy's hazardous waste stream.

The Shop Towel Re-use Program utilizes a red towel that is more absorbent than its counterpart. The towel is laundered through a special cleaning process to allow multiple uses and avoid hazardous waste disposal costs. By 2002, the Navy laundered 13,800,000 shop towels and thus avoided the purchase and disposal costs for 196,800 bales of rags. This represents a cost avoidance of \$8.1 million.

To read more about this initiative check the Navy's "Currents Magazine" on-line at www.enviro-navair.navy.mil.



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