

# THINK



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## LUST Special Project

by Patrick Boettcher

The Corrective Action Group of the TMB is getting ready to lend a hand in closing out some of Delaware's leaking underground storage tank (LUST) backlog. There are a number of backlog projects that have been "open" LUST cases for ten or more years with little or no activity. There are several reasons why sites have remained open in our backlog for over ten years including missing documentation, problems identifying responsible parties, recalcitrant responsible parties, and a lack of recent data that would support a closure decision including MtBE analysis and/or sampling in former dispenser locations. In some cases, staff may have been forced to work on other cases that presented a higher risk to both public and private drinking water sources and let LUST cases that were not perceived as a priority lapse into an inactive status. To help bring these lost LUST projects to closure (or at least to bring them into the present), the TMB has established the LUST Special Project (LSP) Program. With funding from the EPA, the TMB will set up and conduct limited site assessments at selected federally regulated LUST sites.

This LSP Program is only a short term program. When the funds are depleted, they will not be renewed. The funds of this program will be used for conducting limited site assessment activities at only selected federally regulated LUST sites. The site assessments will generally include monitoring well sampling and soil and groundwater sample collection from direct-push borings. The typical selected LUST project is 10-16 years old and has been stagnant for several years with

no updates being submitted for review. It is very possible that current owners are unaware that there is an open LUST project on their property if they purchased the property during this period of inactivity and did not perform due diligence through FOIA or Phase I site assessment prior to purchase.

During the last few months, the Corrective Action Group has been conducting numerous file reviews and databases searches for eligible sites. At this time, the group has established a list of approximately 40 LUST projects that will be targeted for this program. The first LSP Program introductory letters were sent to property owners of selected LUST sites this past January. We intend to conduct the first rounds of sampling by June 2007.

The majority of the sites selected for this program have had investigations conducted during the first few years after the site was identified as a LUST site. Unfortunately the data collected has become outdated. By conducting present day site assessments, we can collect enough data to characterize a site and consider closure under DERBCAP. If results of the site assessment are not favorable and closure is not an option, the Tank Management Branch will work with the responsible party to proceed towards site closure. Unless a project qualifies for additional funding, the remainder of the project will be the responsibility of the responsible party.

If you have any questions, please contact Patrick Boettcher at 302-395-2500.

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# Two Monumental Closures Pending for the TMB

by Tripp Fischer

The Ogletown Mobil (now Sunoco) and the former Shore Stop #233 near Richardson Circle in Camden, DE, have been given the green light to abandon all monitoring wells in preparation for project closure. Two of the more complicated sites in TMB history, the Ogletown Mobil and Shore Stop #233 are preparing for closure after 6 and 10 years of corrective action, respectively.

## Former Shore Stop #233

In 1997, a failure in a product line at the former Shore Stop ultimately resulted in an MtBE contaminated groundwater plume that measured over 1,100 feet long and comprised an area of approximately eight acres. Twelve residential drinking water wells were impacted and soon replaced by deeper, confined, double-cased wells.

MtBE concentrations in the “core” of the plume ranged from 3,000 ug/L to 24,000 ug/L and extended well over 500 feet down gradient of the source. As a result, corrective action was required. The goal of the corrective action was to destroy the “core” of the MtBE plume, and to achieve a shrinking plume by establishing effective cleanup levels.

After several years of implementing a pump and treat system to treat hundreds of thousands of gallons of contaminated groundwater, in-situ remedial technologies were implemented to assist in finalizing cleanup actions. After a few years of applying a slow oxygen release compound (ORC®) and the iSOC® gas diffusion system, concentrations of MtBE remained below risk-based screening levels for the past year.

## Ogletown Mobil

In July of 2000, the DNREC responded to a situation in Newark, DE after gasoline vapors were detected in the public sewer system. The vapors were traced back to the Ogletown Mobil, where the failure of a flexible hose fitting resulted in an estimated release of 15,000 gallons of gasoline to the subsurface.

The owner of the facility committed to aggressively recovering the free-phase petroleum product and treating the dissolved phase contamination. Initially, interceptor trenches and recovery wells were installed to collect and pump free-phase gasoline from the subsurface. Through these initial efforts, spanning three months, over 15,000 gallons of gasoline were recovered.

After the recovery of the free-phase gasoline, the focus shifted to the groundwater. To treat the dis-

solved phase contamination, WIK Associates, Inc. installed an air-sparging and soil vapor extraction system (AS/SVE) to strip the dissolved contaminants from the groundwater and utilized a thermal/catalytic oxidizer to treat the recovered vapors.

After two years of operating the AS/SVE system, in-situ technologies were implemented to complete the corrective action process. Brightfields, Inc. installed the iSOC® gas diffusion system, performed hydrogen peroxide injections and installed an ORC® barrier wall along the down gradient fence line to enhance in-situ biodegradation of the petroleum contaminants.

The combined effect of the various remedial technologies used during this project either recovered, or treated, approximately 17,600 gallons of gasoline; 2,600 gallons more than what was estimated to have been released. MtBE concentrations decreased by two to three orders of magnitude and the “source area” has been nearly destroyed. The initial recovery well, RC-04, has decreased from 3,000,000 ug/L down to 40 ug/L during the six years of corrective action.

The Department is proud to say that due to the hard work and determination of the responsible parties, consultants and contractors involved, both projects are preparing for closure. Once all of the wells are properly abandoned, the Department will issue No Further Action (NFA) letters to the responsible parties.

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## UST Regulations Update

by Jill Williams Hall

Since our public workshops in 2006, the TMB has taken the public comments received and has made changes to the draft regulations. We extend our sincere appreciation to those of you who took the time to read and digest the hundreds of pages and send comments to us.

The revised draft regulations will be ready for a second round of public workshops in May. A public hearing is anticipated in late summer with a projected promulgation date in September or October 2007. The date for public workshops and public hearing will be advertised in the Delaware State News, the Delaware News-Journal, and the Delaware State calendar. At the time of advertisement the revised draft regulations will be posted on the DNREC website and hard copies will be available for public viewing at DNREC offices and public libraries.

# LUST Site Cleanup Process Getting More Efficient

by Alex Rittberg and Jenn Roushey

**D**uring the past two months, DNREC's TMB staff, staff from other DNREC programs and representatives from environmental consulting firms have worked with the Delaware Manufacturing Alliance to improve the efficiency of the LUST Cleanup Program using a process called Value Stream Mapping. Value Stream Mapping is a tool for evaluating the steps in a process in order to reveal waste and problems with process flow. This evaluation provides a blueprint for improvement. The TMB embarked on this effort to shorten the amount of time it takes to close a typical LUST project. The TMB currently has over 250 active LUST cases; in addition, approximately 100 - 130 new sites enter the LUST program annually. Although the TMB has been chipping away at its backlog of sites over the last several years, it is working to significantly reduce this backlog and to assure that new sites move more quickly towards closure. The Value Stream Mapping of the Corrective Action Process is a step towards moving in this direction.

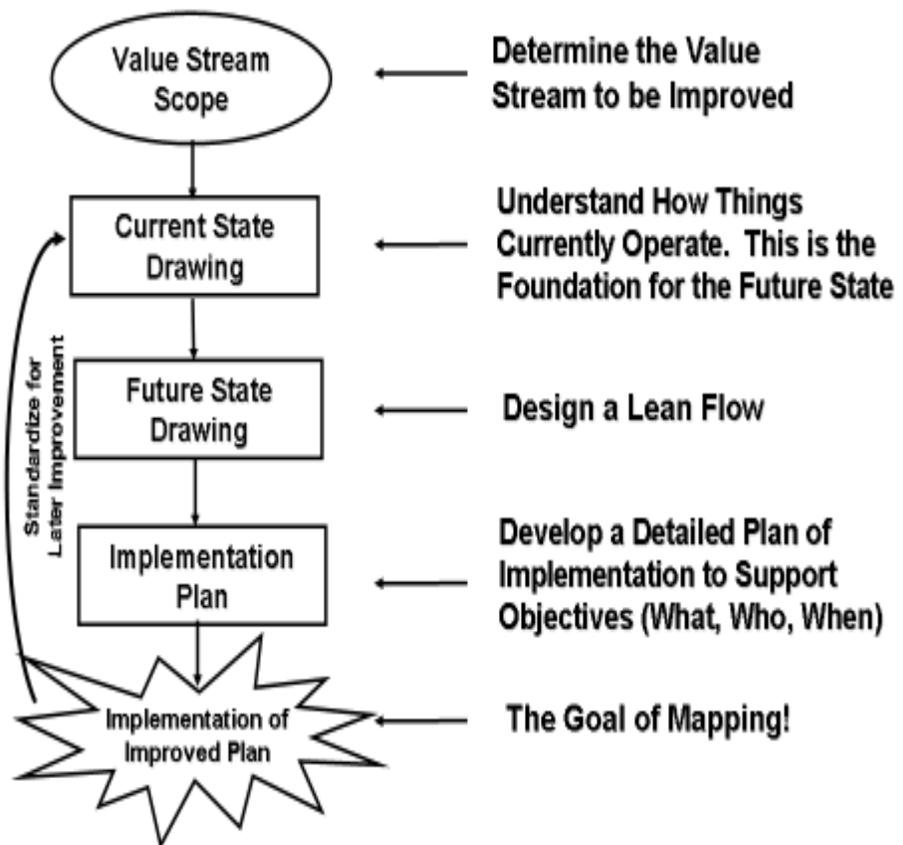
As part of Value Stream Mapping, the TMB looked at how long the staff takes to review and respond to documents submitted for approval. Every administrative step in the process was evaluated, listing both the time it takes to do the actual work, as well as the necessary lead time for each task. For a typical LUST cleanup project, TMB staff currently spend up to 42 weeks of lead time and process time reviewing and approving documents that are submitted, not including time spent waiting for site work to be performed and/or for reports, work plans, and documentation to be submitted. This provided a benchmark upon which to improve.

Once the "current state" of the process was reviewed, the "future state" of the process was then developed. Several steps were eliminated and ideas were developed in order to make the administrative

process more efficient. One change included developing consistent letters, or templates, for approving various phases of the project. Another concept that was developed was eliminating the need for consultants to submit a hydrogeologic investigation workplan. This will also require the Corrective Action Group to develop a guidance document that depicts what an acceptable hydrogeologic investigation should include.

The changes resulting from the Value Stream Mapping process is expected to cut technical staff review time down to 25 weeks on a typical LUST

## Using the Value Stream Mapping Tool



project. Site status boards will also be developed to assist staff in tracking projects and keeping them on schedule.

Ultimately, it will take TMB staff and consultants working together, as well as responsible parties willing to pay for more aggressive remedial measures at LUST sites, to reduce the active LUST case load and accelerate site closures. Value Stream Mapping will set the stage for this to happen.

# THINK TANK

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## Announcements

*Sandi Carney* — a 2006 graduate of Delaware State University, was hired as an Environmental Scientist. She earned her B.S. in Biology and Chemistry and was formerly employed at a local pharmaceutical company.

### EPA Fines Company \$3.1 Million for UST Violations

An EPA administrative law judge has assessed an unprecedented \$3.1 million penalty against Euclid of Virginia Inc. for not taking required measures to detect and prevent leaks from underground storage tanks (USTs) at 23 gas stations in Maryland, Virginia and the District of Columbia.

In a 118-page decision, Judge Carl C. Charneski imposed the largest penalty ever assessed by an agency administrative law judge for violations of any federal environmental statute. The judge ruled that Euclid failed to maintain required leak detection and control equipment, and perform required leak detection activities for 72 USTs at 23 gas stations.

“With millions of gallons of gasoline, oil and other petroleum products stored in underground tanks, leaving them unchecked can cause major soil and groundwater contamination,” said EPA Region 3 Administrator Donald S. Welsh. “We have invested extensive resources to ensure that underground storage tank owners comply with leak detection and prevention requirements.”

The judge found that, for certain facilities, Euclid failed to comply with corrosion-prevention standards, install, or maintain equipment to prevent releases of gasoline due to the overfilling of tanks or other spills when tanks are being filled. Finally, the judge ruled that Euclid did not maintain required financial assurances to respond and clean up potential fuel leaks or spills for its facilities in the District of Columbia.

The size of the penalty was due in part to the number of facilities and storage tanks and the extended period of violations. In addition, the penalty was justified by what the judge referred to as Euclid’s “high degree of negligence” in allowing violations to continue despite numerous warnings.

Pollution Engineering Newsletter 12/7/06

<http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/ust/>

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