



## PROPOSED PLAN OF REMEDIAL ACTION

Former Duke's Boat Yard Site OU-1  
Millsboro, Delaware  
DNREC Project NO. DE-1494



June 2012

Delaware Department of Natural Resources and Environmental Control  
Division of Waste and Hazardous Substances  
Site Investigation & Restoration Section  
391 Lukens Drive  
New Castle, Delaware 19720

### CONTENTS

- Figures: 1 & 2
- Glossary of Terms

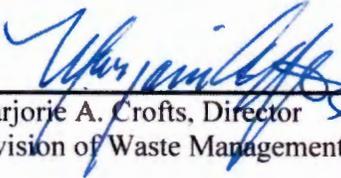
# PROPOSED PLAN OF REMEDIAL ACTION

Former Duke's Boat Yard Site  
Operable Unit 1 (Soil)  
Millsboro, Delaware  
DNREC Project No. DE-1494



**Approval:**

This Proposed Plan meets the requirements of the Hazardous Substance Cleanup Act.

Approved by:

Marjorie A. Crofts, Director Division of Waste Management
6.25.12
Date



## **What is the Proposed Plan of Remedial Action?**

The Proposed Plan of Remedial Action (Proposed Plan) summarizes the clean-up (remedial) actions that are being proposed to address contamination found at the Site for public comment. A legal notice is published in the newspaper for a 20-day comment period. DNREC considers and addresses all public comments received and publish a Final Plan of Remedial Action (Final Plan) for the Site.

## **What is the Former Duke's Boat Yard Site, OU-1?**

The Former Duke's Boat Yard Site, Operable Unit 1 (OU-1) consists of one tax parcel (234-30.00-8.01) covering 6.6 acres at 34836 Long Neck Road, Millsboro, Sussex County, Delaware (Figure 1). The nearest intersection to the Site is Blue Mist Drive. The Site consists of two small shop buildings and an open, partially grassed soil and gravel area where boats were formerly stored (Figure 2). The Site is zoned commercial. The Site was certified by DNREC-SIRS as a Brownfield in 2011.

This proposed plan addresses Operable Unit-1 (OU-1), which consists of the soils at the Site. Groundwater contamination from volatile organic compounds (VOCs) at the Site is being addressed separately as Operable Unit-2 (OU-2).

## **What happened at the Former Duke's Boat Yard Site?**

The Site was used as a boat storage and repair facility between 1968 and 2007 and has been vacant since 2007. A 2009 Phase I Environmental Site Assessment (ESA) of the Site identified two possible "recognized environmental conditions (RECs)" at the Site; (1) potential groundwater impacts by petroleum products from a Leaking Underground Storage Tank site on an adjacent property, and (2) potential historic soil impacts by oils, fuels and/or solvents from the Site's former use as boat storage and repair shop. A Limited Phase II Investigation was performed in December 2009 to evaluate those possible environmental conditions. Low levels of VOC's were detected in two onsite soil samples.

Additional testing done at the Site in April 2010 indicated the presence of low levels of VOCs in soil and groundwater, and semi-volatile organic compounds (SVOCs), and metals in groundwater; however, groundwater was not being used as drinking water on the Site. The prospective purchasers entered the Site into Delaware's Brownfields Program for further environmental evaluation.

## **What is the environmental problem at the Former Duke's Boat Yard Site?**

During the Brownfields Investigation (BFI) that was conducted at the Site in the fall of 2011, 42 soil samples and 7 groundwater samples were collected. All soil samples were screened by DNREC SIRS's lab, and 15 samples were sent to a HSCA Certified lab for confirmatory analyses. Low levels of VOCs and SVOCs were detected in the shallow and deep soil samples from one boring. One surface soil sample contained benzo(a)pyrene at a concentration above residential soil standards. The only metals present in the samples at concentrations above residential standards were aluminum and iron, which are considered to be naturally occurring. No other organic compounds or metals were present in the soil samples at concentrations above the residential levels.

Groundwater samples contained low concentrations of VOCs and metals. However, only a single sample containing the gasoline additive methyl tert butyl ether (MTBE), exceeded Delaware's Office of Drinking Water action level of 10 µg/L for MTBE.

Using the maximum benzo(a)pyrene concentration detected in the Site soil samples, the Human Health Risk Evaluation (HHRA) concluded that the benzo(a)pyrene did not pose an unacceptable level of risk to any current or likely future users of the Site including residents, industrial workers, or construction workers. As a result, a remedy for soil is not needed at the Site.

The evaluation of the lateral and vertical extent of VOC constituents in groundwater will be conducted under OU-2 to determine the complete exposure pathways and the representative concentrations to be used in the calculation of risk from groundwater to human health and the environment.

## **What clean-up actions have been taken at the Former Duke's Boat Yard Site?**

No clean-up actions have taken place at the Site.

## **What does the owner want to do at the Former Duke's Boat Yard Site?**

The Site will be used by Caswell Real Estate Holding Co. for boat washing, boat storage, and vehicle parking for the owner's contracting business.

## **What additional clean-up actions are needed at the Former Duke's Boat Yard Site?**

No remedy or cleanup actions are proposed for OU-1, the site soils, by DNREC because no unacceptable risks were calculated using the maximum soil concentrations.

Additional investigation and a separate Proposed Plan of Remedial Action will be developed for the site groundwater under OU-2.

## **What are the long term plans for the Former Duke's Boat Yard Site after the cleanup?**

The Site use of OU-1 will not be restricted. The Site use for OU-2 will be addressed separately.

## **How can I find additional information or comment on the Proposed Plan?**

The complete file on the Site including the Brownfield Investigation Report and the various reports are available at the DNREC office, 391 Lukens Drive in New Castle, 19720. Most documents are also found on: <http://www.nav.dnrec.delaware.gov/DEN3/>

The 20-day public comment period begins on June 27, 2012 and ends at close of business (4:30 pm) on July 17, 2012. Please send written comments to the DNREC office at 391 Lukens Drive, New Castle, DE 19720 to Robert C. Asreen, Jr., Project Officer or Robert Newsome, Public Information Officer.

Figure 1: Site Location Map

Figure 2: Site Features

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This location sketch was adapted from the Maptech USGS Topographic Series, Edition 1.0 for Delaware (2001)

 <p><b>Ten Bears Environmental</b></p> <p>Ten Bears Environmental, L.L.C. 606 Federal Street Milton, DE 19968 Phone: (302) 684-5080 Fax: (302) 684-5081</p>	<p><b>FIGURE 1 - SITE LOCATION SKETCH</b></p> <p><b>DUKE'S BOAT YARD PROPERTY</b></p> <p>34836 LONG NECK ROAD</p> <p>MILLSBORO, SUSSEX COUNTY, DELAWARE</p>	
	<p>DATE: 10/27/2011</p> <p>DRAWN BY: BKE</p> <p>CHECKED BY:</p> <p>FILE NO: 111077A.FIG</p>	<p>JOB NUMBER: 11-1077.A</p> <p>SCALE: 1" = approx. 2,400'</p> <p>FIGURE NO: 1</p> <p>SHEET 1 OF 1</p>

**Figure 1**



Note: This drawing was adapted from a 2007 aerial photograph obtained from the Delaware DataMIL Internet site.

 <p>Ten Bears Environmental, L.L.C. 606 Federal Street Milton, Delaware 19968 Phone: (302) 684-5080 Fax: (302) 684-5081</p>	<b>FIGURE 2 - SITE FEATURES</b> DUKE'S BOAT YARD PROPERTY 34836 LONG NECK ROAD MILLSBORO, SUSSEX COUNTY, DELAWARE			
	DATE:	10/3/2011	JOB NUMBER:	11-1077.A
	DRAWN BY:	BKE	SCALE:	1" = approx. 200'
	CHECKED BY:		FIGURE NO:	2
	FILE NO:	111077A.FIG	SHEET	1 OF 1

Figure 2

## Glossary of Terms Used in this Proposed Plan

<b>Brownfield Investigation (BFI)</b>	Thorough environmental study of a site which includes 1) sampling of site environmental media and/or wastes on the property and 2) conducting a preliminary risk assessment using the data collected to determine the risk posed to human health and the environment.
<b>Certified Brownfield</b>	A Brownfield that DNREC has determined is eligible for partial funding through the Delaware Brownfields Program
<b>Contaminant of Concern (COC)</b>	Potentially harmful substances at concentrations above acceptable levels.
<b>Final Plan of Remedial Action</b>	DNREC's adopted plan for cleaning up a hazardous site.
<b>Hazardous Substance Cleanup Act (HSCA)</b>	Delaware Code Title 7, Chapter 91. The law that enables DNREC to identify parties responsible for hazardous substances releases and requires cleanup with oversight of the Department.
<b>Human Health Risk Assessment (HHRA)</b>	An assessment done to characterize the potential human health risk associated with exposure* to site related chemicals.
<b>Preliminary Risk Assessment</b>	A quantitative evaluation of only the most obvious and likely risks at a site
<b>Risk</b>	Likelihood or probability of injury, disease, or death.
<b>Risk Assessment Guidance for Superfund (RAGS)</b>	An EPA guidance document for superfund sites
<b>Restricted Use</b>	Commercial or Industrial setting
<b>Site Inspection (SI)</b>	Environmental study of a site which includes the sampling of soils, groundwater, surface water, sediment and/or wastes on the property, as appropriate. This evaluation is performed on behalf of the United States Environmental Protection Agency (U.S. EPA).
<b>SIRS</b>	Site Investigation Restoration Section of DNREC, which oversees cleanup of sites that were contaminated as a result of past use, from dry cleaners to chemical companies
<b>Toxic Substance Cleanup Act (TSCA)</b>	The federal statute requiring and regulating the cleanup of PCBs.
<b>Uniform Risk-Based Remediation Standards (URS)</b>	A set of concentration criteria for various contaminants potentially present in site media that are developed for protection of human health and the environment
<b>US EPA</b>	United States Environmental Protection Agency