

FINAL PLAN OF REMEDIAL ACTION



Former Dukes Boat Yard Site OU-2

34836 Long Neck Road
Millsboro, Delaware

March 2014
DNREC Project No. DE-1494

This Final Plan of Remedial Action (Final Plan) presents the Department of Natural Resources and Environmental Control's (DNREC's) intention to address environmental contamination at the Former Dukes Boat Yard Site Operable Unit (OU)-2.

DNREC issued public notice of the Proposed Plan of Remedial Action (Proposed Plan) for Former Dukes Boat Yard Site OU-2 on February 26, 2014 and opened a 20-day public comment period. The Proposed Plan is attached. There were no comments from the public; therefore, the Proposed Plan is adopted as the Final Plan.

Approval:

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

Timothy T. Ratsep, Program Administrator
Site Investigation and Restoration Section

March 19, 2014
Date



PROPOSED PLAN OF REMEDIAL ACTION

**FORMER DUKES BOAT YARD SITE
OPERABLE UNIT 2 (OU-2)
Millsboro, Delaware
DNREC Project No. DE-1494**



February 2014

**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: 1-3**
- **Glossary of Terms**

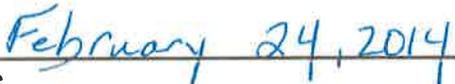
PROPOSED PLAN OF REMEDIAL ACTION

FORMER DUKES BOAT YARD SITE OU-2
Millsboro, Delaware
DNREC Project No. DE-1494



Approval:

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

Approved by:	
	
Timothy Ratsep, Environmental Program Administrator Site Investigation & Restoration Section	
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. This Proposed Plan addresses the remedy for groundwater under Operable Unit 2 at the Site. A Proposed Plan was issued for the Site Soil (OU-1) in June of 2012. A legal notice is published in the newspaper for a 20-day comment period. DNREC considers and addresses all public comments received and publishes a Final Plan of Remedial Action (Final Plan) for the Site.

What is the Former Dukes Boat Yard Site OU 2?

The Former Duke's Boat Yard Site occupies 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 certified brownfield Site consists of two small shop buildings and an open, partially grassed soil and gravel area where boats are stored (Figure 2). The Site is zoned for commercial use.

This proposed plan addresses Operable Unit-2 (OU-2), which consists of the groundwater at the Site. Soil was evaluated independently under Operable Unit-1 (OU-1), for which no remedial action was required.

What happened at the Former Dukes Boat Yard Site?

The Site was used as a boat storage and repair facility between 1968 and 2007, then was vacant from 2007 to 2012. A 2009 Phase I Environmental Site Assessment (ESA) of the Site identified two possible "recognized environmental conditions (RECs)"; (1) potential groundwater impacts by petroleum products from a Leaking Underground Storage Tank site on a property to the northwest, and (2) potential historic soil impacts by oils, fuels and/or solvents from the use as boat storage and repair shop. A Limited Phase II Investigation was performed in December 2009 in which low levels of volatile organic compounds (VOC's) were detected in two onsite soil samples. Additional testing in May 2010 indicated the presence of low levels of VOCs, semi-volatile organic compounds (SVOCs), and metals in groundwater; groundwater was not being used for drinking water. The Site was certified as a Brownfield by DNREC in September of 2010, and the Brownfield Developer was approved by DNREC in May of 2011.

What is the environmental problem at the Former Dukes Boat Yard Site?

A Brownfield Investigation was conducted in the fall of 2011 in which 42 soil samples and 7 groundwater samples were collected. Low levels of organic compounds were detected with one surface soil sample containing benzo(a)pyrene at a concentration above DNREC's residential soil standards. Aluminum and iron were the only metals present at concentrations above residential

standards; they were considered to reflect natural background levels. Groundwater samples contained low concentrations of VOCs and background metals. Only one VOC, the gasoline additive methyl tert butyl ether (MTBE), was present at a concentration above a drinking water standard (Delaware's Office of Drinking Water action level of 10 µg/L for MTBE), which was exceeded in a single groundwater sample.

Additional groundwater characterization was performed under Operable Unit 2. Thirty (30) depth-discrete groundwater grab samples were collected from six 55-ft deep borings. Gasoline-related compounds (e.g. benzene and MTBE) as well as some chlorinated solvents (tetrachloroethene (PCE) and vinyl chloride) were detected in the samples analyzed for VOCs. Based on the findings of that effort, four (4) new wells were installed and sampled to characterize the quality of groundwater coming onto the Site from upgradient areas to the west-northwest, and that leaving the Site on the downgradient (southern) boundary. PCE was detected above DNREC's screening levels in the upgradient well and only MTBE, which was detected below the DNREC screening levels, was the only VOC reported from one (1) of the three (3) offsite monitoring wells. Figure 3 shows the groundwater monitor wells installed during the remedial investigation of OU-2.

What does the owner want to do at the Former Dukes 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 clean-up actions are needed at the Former Dukes Boat Yard Site?

DNREC proposes the following remedial actions for the Site, which need to be completed before a Certificate of Completion of Remedy (COCR) can be issued:

1. An Environmental Covenant, consistent with Delaware's Uniform Environmental Covenants Act (Title 7, Del. Code Chapter 79, Subtitle II) (UECA), will be recorded in the office of the Sussex County Recorder of Deeds to include the following:
 - Prohibition of Groundwater Withdrawal: No groundwater wells shall be installed, and no groundwater shall be withdrawn from any well on the Property without the prior written approval of DNREC-SIRS and DNREC Division of Water;
 - Compliance with Long Term Stewardship Plan: Perform all work required by the Long Term Stewardship Plan ("LTS Plan"), as issued, approved, modified or amended by DNREC;
2. Develop and implement a DNREC-approved Long-Term Stewardship (LTS) Plan. The LTS Plan will detail the groundwater monitoring network and the schedule to be followed in order to monitor the attenuation of the groundwater contaminants of concern.

What are the long term plans for the Former Dukes Boat Yard Site after the cleanup?

DNREC required no remedy or cleanup actions for OU-1, the Site soil; because there was no unacceptable soil risks calculated using the maximum soil concentrations. Long Term monitoring of Site groundwater (OU-2) is required to be performed in accordance with the provisions of a DNREC-approved LTS Plan.

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

The complete file on the Site including the Brownfield Investigation Report and other 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 February 26, 2014 and ends at close of business (4:30 pm) on March 18, 2014. 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 Sketch

Figure 2: Site Features

Figure 3: Groundwater Site Locations

RCA:tlw; RCA:14014.doc; DE 1494 II B 8



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

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



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

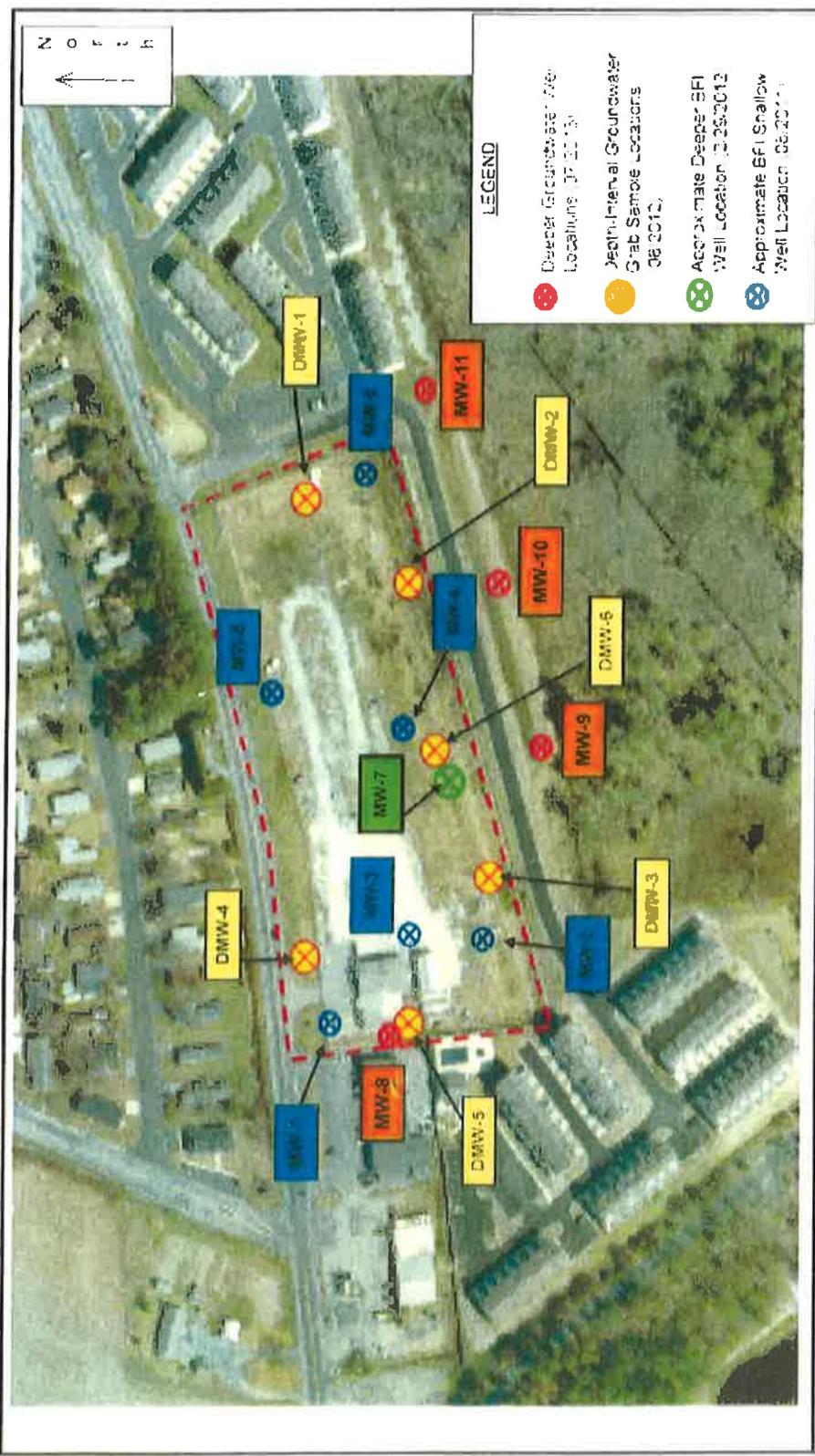
FIGURE 2 - SITE FEATURES

DUKE'S BOAT YARD PROPERTY
 34836 LONG NECK ROAD
 MILLSBORO, SUSSEX COUNTY, DELAWARE



Ten Bears Environmental, L.L.C.
 606 Federal Street
 Milton, Delaware 19968
 Phone: (302) 684-5080 Fax: (302) 684-5081

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



LEGEND

- Deeper Groundwater Well Locations (07/20/13)
- Internal Groundwater Grab Sample Locations (06/2012)
- Approximate Deeper BFI Well Location (02/28/2012)
- Approximate BFI Shallow Well Location (06/2012)

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

FIGURE 3 - GROUNDWATER SAMPLE LOCATIONS

DUKE'S BOAT YARD PROPERTY
34836 LONG NECK ROAD

MILLSBORO SUSSEX COUNTY DELAWARE

DATE	12/20/2013	JOB NUMBER	111077C
DRAWN BY	FWR	SCALE	1" = approx. 200'
CHECKED BY:	RCG	FIGURE NO.	3
FILE NO	111077C GWFIG	SHEET 1 OF 1	



Ten Bears Environmental
 505 Federal Street
 Mills, Delaware 19966
 Phone (302) 254-5080 Fax (302) 254-5081

Glossary of Terms Used in this Proposed Plan

Brownfield Development Agreement (BDA)	This legal agreement is between a potential developer of a Delaware-certified Brownfields Site and the DNREC. The developer agrees to investigate and cleanup a Brownfields property under the oversight of the Department in exchange for liability protection.
Brownfield Investigation (BFI)	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.
Certified Brownfield	A Brownfield that DNREC has determined is eligible for partial funding through the Delaware Brownfields Program
Certification of Completion of Remedy (COCR)	A formal determination by the Secretary of DNREC that remedial activities required by the Final Plan of Remedial Action have been completed.
Final Plan of Remedial Action	DNREC's adopted plan for cleaning up a hazardous site.
Hazardous Substance Cleanup Act (HSCA)	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.
SIRS	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
US EPA	United States Environmental Protection Agency