N60921.AR.000389
NSWC WHITE OAK
5090.3a

Section: 04.04
Site 20903-5640 (White Oak)
Doc. #: 0004
00540

# DEPARTMENT OF THE NAVY

*Proposed Plan for Site 8—Abandoned Chemical Disposal Pit*
*No Further Action for Site 8*
*Former Naval Surface Warfare Center—White Oak*
*Silver Spring, Maryland*

## NAVY ANNOUNCES PROPOSED PLAN

The Department of the Navy (Navy) has completed its investigation of Site 8 at the former Naval Surface Warfare Center, Dahlgren Division Detachment, White Oak (NSWC-White Oak) in Silver Spring, Maryland and has also completed a removal action to excavate waste and soil associated with Site 8. The location of the former NSWC-White Oak is shown on Figure 1, and the location of Site 8 is shown on Figure 2. Site 8 is also known as the Abandoned Chemical Disposal Pit.

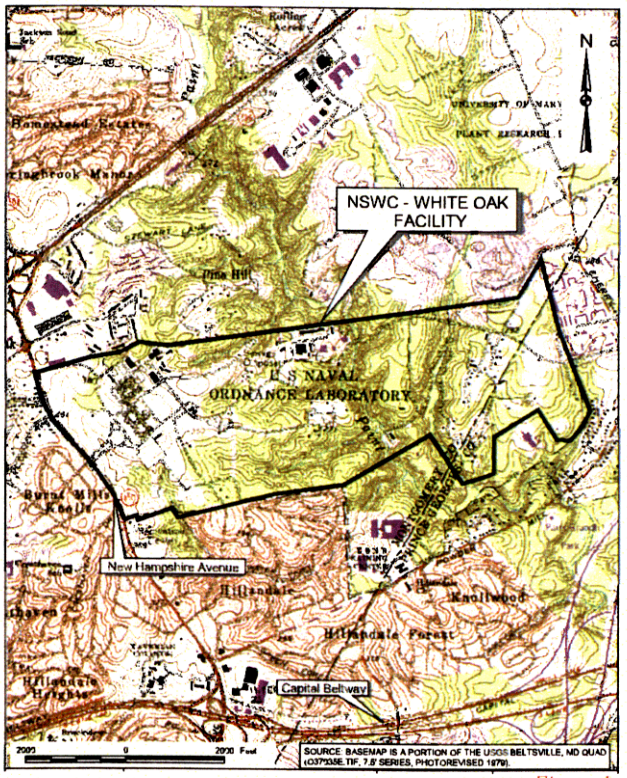


*Figure 1*

Site 8 includes the soils remaining in the area of the Abandoned Chemical Disposal Pit and the site's associated groundwater. There is no surface water in the vicinity of Site 8. As detailed below, the Navy has already conducted a removal action of soils associated with Site 8, and this Proposed Plan recommends that no further action is necessary at the Site.

The investigation and the removal action were completed as part of the Navy's Installation Restoration Program (IRP) and in response to the requirements of the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act

## LEARN MORE ABOUT THE PROPOSED PLAN

The Navy solicits written comments from the community on the proposed alternative for Site 8, as identified in this Proposed Plan. The Navy has set a public comment period from January 25, 2002 through February 25, 2002 to encourage public participation in the remedy selection process for Site 8. A public meeting has been scheduled for February 6, 2002. During the public meeting, representatives of the Navy, EPA, and MDE will be available to answer questions and accept public comments on the Proposed Plan for Site 8. In addition, an overview of the site characterization will be presented.

**Important Information to Remember**

Public comment period begins **January 25, 2002**

Public Meeting: **February 6, 2002 at 7:30 PM**

Federal Research Center at White Oak
Former Naval Surface Warfare Center-White Oak
10901 New Hampshire Avenue
Silver Spring, MD 20902-1049
Telephone: (301) 344-1147 or (301) 344-1145

Public comment period ends **February 25, 2002**

The relevant environmental documents for the former NSWC-White Oak Site 8 are available for review by the public at the following locations:

Montgomery County Public Library, White Oak Branch
11701 New Hampshire Avenue
Silver Spring, MD 20904
(301) 622-2492

Hours of Operation:
Mon. – Thurs.: 10:00 AM – 8:30 PM
Fri.: 10:00 AM – 5:00 PM
Sat.: 9:00 AM – 5:00 PM
Sun.: Closed

Engineering Field Activity Chesapeake
1314 Harwood Street, SE
Washington Navy Yard, Washington D.C. 20374-5018
(202) 685-0061

Hours of Operation:
Mon. – Fri.: 8:00 AM – 4:00 PM
Sat.: Closed
Sun.: Closed

(CERCLA). The investigations completed for Site 8 (see Site Background for a detailed description) collectively meet the requirements of both a CERCLA remedial investigation (RI) and a RCRA facility investigation (RFI). This Proposed Plan summarizes the findings of these investigations.

A glossary of key words used in this Proposed Plan is on Page 6.

This document is issued by the Navy and the U.S. Environmental Protection Agency (EPA). The Navy and EPA, in consultation with the Maryland Department of the Environment (MDE), will select a remedy for Site 8 after reviewing and considering any comments on this proposal submitted during the public comment period. The Navy and EPA may modify the preferred alternative or select another alternative based on new information or public comments. Therefore, the public is encouraged to review and comment on the Proposed Plan.

This Proposed Plan is issued pursuant to the public participation requirements under Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and Section 117(a) of CERCLA. This Proposed Plan summarizes information that can be found in greater detail in the Administrative Record file and the information repository for the former NSWC-White Oak. All documents that are relevant to the remedy selection for Site 8 (i.e., documents that comprise the Site 8 Administrative Record) and other documents regarding RCRA/CERCLA activities at the former NSWC-White Oak, can be found in both the Administrative Record file and the information repository. The Administrative Record for Site 8 is maintained by the Navy at the Engineering Field Activity Chesapeake office at the Washington Navy Yard in Washington, DC. The information repository, which contains key documents from the Administrative Record on which this proposal is based, is located at the Montgomery County Public Library, White Oak Branch.

The Navy, EPA, and MDE encourage the public to review this information and to comment on the Proposed Plan during the public comment period. All comments that are received will become part of the Administrative Record. Information regarding when and how to comment is provided later in this Proposed Plan.

A final remedy for Site 8 will be documented in a Record of Decision (ROD), which will be issued after all public comments on this Proposed Plan are considered.

## SITE BACKGROUND

The former NSWC-White Oak was originally established in 1944 as the Naval Ordnance Laboratory, with a mission to carry out research on military guns and explosives. The former facility is located in Prince George's and Montgomery Counties, approximately 5 miles north of Washington, DC, off New Hampshire Avenue in Silver Spring, Maryland.

Through the years, NSWC-White Oak's mission was expanded to include research involving torpedoes, mines, and projectiles. In September 1974, the facility combined with the Naval Weapons Laboratory, Dahlgren, Virginia to become the Naval Surface Weapons Center, which was renamed the Naval Surface Warfare Center, Dahlgren Division, in 1988. After that time, the facility functioned as the principal Navy research, development, test, and evaluation center for surface warfare weapon systems, ordnance technology, strategic systems, and underwater weapons systems.

In response to the Base Realignment and Closure (BRAC) Act, NSWC-White Oak was closed in 1997. The approximately 712-acre property was transferred in two parcels to the General Services Administration (GSA) and to the U.S. Army. Approximately 662 acres were transferred to the GSA in the fall of 1997 and the remaining area in the southeastern portion of the facility was transferred to the U.S. Army in February 1998. The GSA has plans to reuse and develop the subject property for commercial purposes.

The property transferred to the U.S. Army will be used in conjunction with ongoing activities at the Army's adjacent Adelphi Research Laboratory. The location of Site 8 was part of the property transferred to the Army.

Before and after its closure, areas of potential contamination at the former NSWC-White Oak have been investigated under the Navy's IRP. On June 2, 1998, EPA issued an Administrative Order (the Order) to the Navy, pursuant to Section 7003 of the Resource Conservation and Recovery Act (RCRA), requiring the Navy to

- Undertake Interim Measures (IM) at the facility to prevent or mitigate threats to human health and/or the environment.
- Perform an RFI to determine fully the nature and any release of hazardous wastes, solid wastes, and/or hazardous constituents at and/or from the facility.
- Perform a Corrective Measures Study (CMS) to identify and evaluate alternatives for corrective action necessary to prevent or mitigate migration or releases of hazardous wastes, solid wastes and/or hazardous constituents at and/or from the facility.

The Order provides the framework for completing the investigation and remediation of the former NSWC-White Oak facility. The Order also recognizes that "EPA and the Navy intend to integrate the Navy's CERCLA response obligations and RCRA corrective action obligations" at the facility. As noted above, this Proposed Plan addresses Site 8, one of the Areas of Contamination identified in the Order at the facility.

EPA and the Navy recognize that, if the no-action alternative is selected for Site 8, the Navy shall have completed requirements related to Site 8 under the Order.

As part of the closure of the facility, the Navy assembled a BRAC Clean-Up Team (BCT) to expedite the work required to comply with this order. The BCT for White Oak includes representatives of the Navy, EPA, and MDE. GSA, while not a formal member of the BCT, actively participates as an adjunct member.

## SITE CHARACTERISTICS

Site 8 formerly included a pit measuring approximately 10 feet square by 12 feet deep. The Site is located along the southern facility boundary at the end of Perimeter Road (see Figure 2). The pit was reportedly used from 1951 until 1971 for disposal of miscellaneous waste chemicals from laboratories throughout the former NSWC-White Oak facility. Wastes reportedly disposed at this site included acids, mercury, solvents, and numerous unidentified waste chemicals.

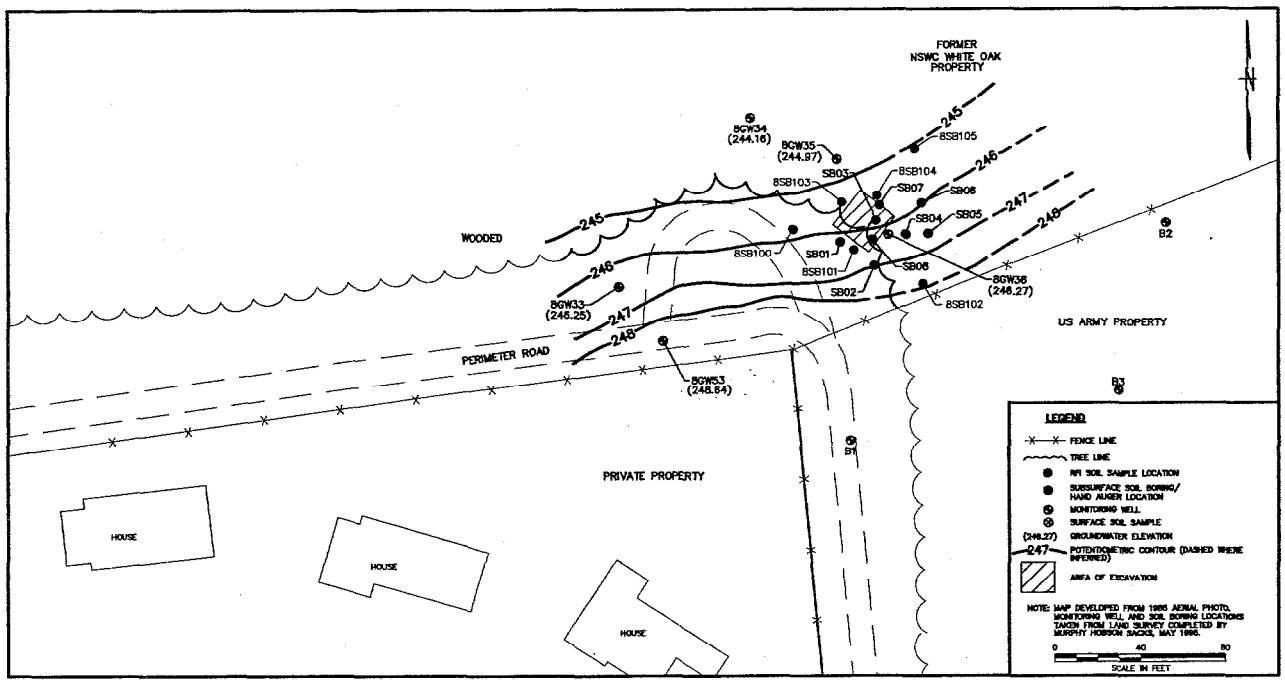


*Figure 2*

Based on the available information for Site 8, a Confirmation Study (Verification Phase) (September 1985) and Remedial Investigation (October 1992) consisting of groundwater investigations and geophysical surveys were performed. These investigations suggested that soil contaminants at Site 8 may potentially impact groundwater quality. In response, a Design Verification Study (DVS) (September 1995) was undertaken that recommended the removal of waste and any contaminated soil. The DVS included subsurface soil sampling and additional geophysical surveys to help scope the recommended removal. The DVS investigation identified the approximate extent of the disposal area and confirmed the presence of mercury and other apparent lab wastes containing metals and volatile organic compounds. A removal action performed in 1996 [as reported in a Final Closure Report (February 1997]) included the excavation and off-site disposal of 106 tons of waste and soil, including 54 tons of waste and soil determined to be RCRA hazardous based on lead, cadmium, and trichloroethylene (TCE) concentrations. Post-removal soil sampling was performed, and the results were reported in a Post-Removal Action Report (November 2001). A RCRA Facility Investigation (RFI) Report (February 2000) was subsequently completed that included surface and subsurface soil sampling to confirm that all soil and waste had been removed, as well as groundwater sampling. The findings of the above investigations included the following:

- The removal action was successful in excavating all laboratory (and other) waste and all soil found to contain lead, cadmium, and TCE at levels exceeding cleanup levels established prior to the action.

- Metals detected in soils remaining after the excavation were generally below clean-up levels. The exceptions were detections of slightly elevated levels of barium, cadmium, and, in one case, arsenic. However, these metals were found to be present at concentrations comparable to site background concentrations. Subsequent sampling also detected low levels of manganese and, in one sample each, mercury and antimony. Aroclor 1260, a polychlorinated biphenyl (PCB), was also detected at a notable level in one sample.

- Organic compounds detected in groundwater at notable levels after the removal were 1,1,2-trichloroethane (1,1,2-TCA), chloroform, and vinyl chloride, which were detected in one sample. However, none of these compounds was detected in soils sampled after the removal action. Moreover, none of these compounds was detected in groundwater at concentrations greater than their respective Maximum Contaminant Levels (MCL).

- Metals detected at slightly elevated levels in groundwater included cadmium, arsenic, chromium, and vanadium. However, cadmium, chromium, and vanadium were found to be present at concentrations comparable to site background concentrations. Arsenic was not detected in groundwater at a concentration greater than its MCL.

Groundwater under Site 8 flows north toward the interior of the former NSWC-White Oak facility.

Due to the location of Site 8, no surface water or sediment is expected to have been impacted by waste management practices at the site.

An addendum to the Human Health Risk Evaluation for Site 8 RFI (December 2001) was prepared following the removal action. The goal of the risk assessment in this RFI Addendum was to determine the current and future effects of substances remaining at Site 8 on human health and the environment. The Navy also conducted a Baseline Ecological Risk Assessment (BERA) at the former NSWC-White Oak (April 2001), including an evaluation of the risk to plants and animals at Site 8.

## PRINCIPAL THREATS

There are no principal threat wastes at Site 8. Principal threats are explained in the box below.

### WHAT IS A "PRINCIPAL THREAT?"

The National Contingency Plan establishes an expectation that EPA will use treatment to address "principal threats" posed by a site wherever practicable [National Contingency Plan Section 300.430 (a)(1)(iii)(A)]. The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for migration of contamination to groundwater, surface water, or air or acts as a source for direct exposure. Contaminated groundwater generally is not considered to be a source material; however, non-aqueous-phase liquids (NAPLs) in groundwater may be viewed as a source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. This analysis provides a basis for making a statutory finding that the remedy uses treatment as a principal element.

## SCOPE AND ROLE OF THE ACTION

This Proposed Plan summarizes the preferred alternative for Site 8 at NSWC-White Oak. Given the lack of significant levels of contamination and risks to existing or potential future site users, it is recommended that no further action be taken at the site. The purpose of the Proposed Plan is to present the preferred alternative that the Navy and EPA, with MDE concurrence and based on public input, plan to finalize in the Record of Decision for the site.

This Proposed Plan is the third to be prepared for NSWC-White Oak. Proposed Plans for other sites at the former NSWC-White Oak will be issued in the future.

## SUMMARY OF SITE RISKS

Based on the RFI Addendum risk assessment, it is the Navy's current judgment that the preferred alternative (i.e., no further action) identified in this Proposed Plan is appropriate and that no further actions are required to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

### Human Health Risks

In the Site 8 RFI Addendum, the Navy conducted a baseline human health risk assessment to account for conditions existing after the removal action. For an explanation of human health risks, see the text box on the next page. Several potential human receptors were evaluated for exposure to contaminated media at Site 8: full-time workers, maintenance/utility workers, construction workers, adult recreational users, adolescent trespassers, daycare center children, and child and adult residents. For this risk assessment, the Navy assumed that all receptors were exposed to soil (surface and subsurface) and groundwater.

The Navy developed quantitative risk estimates for potential human receptors for those chemicals identified as potential contaminants of concern (PCOC) at Site 8, based on the RFI sampling. The data set used to select PCOCs included the five soil samples collected during the Design Verification Study in 1995, 12 soil samples collected during the RFI, 12 post-removal samples, and one clean-fill sample. The PCOCs are summarized below:

Soil: Aroclor 1260, antimony, manganese, and mercury.
Groundwater: 1,1,2-Trichloroethane, chloroform, vinyl chloride, arsenic, chromium, and vanadium.

Potential noncarcinogenic and carcinogenic risks were calculated for all receptors under the reasonable maximum exposure (RME) and central tendency exposure (CTE) scenarios. The RME represents the highest level of human exposure that could reasonably be expected to occur, and the CTE scenario portrays the average exposure. Risks for each receptor are summed across all applicable exposure routes.

For noncarcinogens, the Hazard Index or Hazard Quotient is used to define the risk. If the Hazard Index or Hazard Quotient is greater than one, this indicates that the dose of chemical to which one is exposed may cause adverse health effects. For carcinogens, the risk to developing cancer is expressed in the form of a probability. For example, a risk of $1 \times 10^{-6}$ indicates that there is a one-in-one million chance of developing cancer as a result of exposure to a specific dose of chemical.

For exposure to soil, the cumulative noncarcinogenic risks are less than the Hazard Index of one and the carcinogenic risks are less than the target risk range of $1 \times 10^{-6}$ to $1 \times 10^{-4}$ for all receptors.

For exposure to groundwater under the most likely exposure conditions, there are no unacceptable risks at Site 8. For the adult and child resident individually (i.e., those who might use this groundwater in the future as their main source of drinking water over a period of 30 years), the hazard indices for exposure to groundwater contaminants under the very conservative exposure scenario (RME, see text box) are 1.4 and 4.8 respectively; however, under the more realistic exposure scenario (CTE, see text box), they are 0.3 and 1.2, respectively. The index for a child resident under the realistic exposure scenario slightly exceeds the EPA target index of one, but based on the factors presented below, the risks are considered acceptable. For the adult and child residents, the incremental lifetime cancer risks for exposure to groundwater contaminants under the very conservative RME scenario are $8.5 \times 10^{-5}$ and $5.4 \times 10^{-5}$, respectively, and under the more realistic CTE scenario are $6.2 \times 10^{-6}$ and $6.4 \times 10^{-6}$, respectively. These cancer risks are considered acceptable by EPA.

For soil and groundwater combined exposures, the noncarcinogenic Hazard Index for adult and child residents under the RME scenario exceeds one. For the adult resident under the CTE scenario, the cumulative Hazard Index is less than one. For the child resident under the CTE scenario, the cumulative Hazard Index exceeds one. These exceedances of the target Hazard Index stem from chloroform and arsenic. However, the maximum detected groundwater concentrations of chloroform and arsenic never exceed their respective Maximum Contaminant Levels (MCLs). For chloroform and arsenic, the maximum detected concentrations were used to evaluate

risk, thus resulting in an overestimation of actual risk. For chloroform, conservative exposure assumptions were used to derive an air concentration that would be higher than actual conditions. For arsenic, the maximum concentration comes from an unfiltered sample with high turbidity. Turbidity is caused by soil particles in the groundwater and the measured arsenic levels are related to these soil particles, which would not be in drinking water. Moreover, no arsenic was detected in the corresponding filtered groundwater sample. Removal of the risk associated with arsenic results in a CTE Hazard Index of 0.7, which is acceptable.

## WHAT IS RISK AND HOW IS IT CALCULATED?

A human health risk assessment estimates "baseline risk." This is an estimate of the likelihood of health problems occurring if no clean-up action were taken at a site. To estimate baseline risk at a site, the Navy undertakes a four-step process:

Step 1: Analyze Contamination
Step 2: Estimate Exposure
Step 3: Assess Potential Health Dangers
Step 4: Characterize Site Risk

In Step 1, the Navy looks at the concentrations of contaminants found at a site as well as past scientific studies on the effects these contaminants have had on people (or animals, when human studies are unavailable). Comparisons between site-specific concentrations and concentrations reported in past studies help the Navy to determine which contaminants are most likely to pose the greatest threat to human health. These are referred to as potential contaminants of concern (PCOCs).

In Step 2, the Navy considers the different ways that people might be exposed to the contaminants identified in Step 1, the concentrations that people might be exposed to, and the potential frequency and duration of exposure. Using this information, EPA calculates a "reasonable maximum exposure" (RME) scenario, which portrays the highest level of human exposure that could reasonably be expected to occur. In some instances, EPA calculates a "central tendency exposure" (CTE), which portrays an average level of human exposure.

In Step 3, the Navy uses the information from Step 2, combined with information on the toxicity of each chemical, to assess potential health risks. The Navy considers two types of risk: cancer risk and non-cancer risk. The likelihood of any kind of cancer resulting from a site is generally expressed as an upper-bound probability; for example, a "1 in 10,000 chance." In other words, for every 10,000 people that could be exposed, one extra cancer may occur as a result of exposure to site contaminants. An extra cancer case means that one more person could get cancer than would normally be expected to from all other causes. For non-cancer health effects, the Navy calculates a "hazard index (HI)." The key concept here is that a "threshold level" (measured usually as a hazard index of less than 1) exists below which non-cancer health effects are no longer predicted.

In Step 4, the Navy determines whether site risks are great enough to cause health problems for people at or near the site. The results of the three previous steps are combined, evaluated, and summarized. The Navy adds up the potential risks from the individual contaminants to determine the total risk resulting from the site.

For the resident (adult and child combined), the cumulative incremental lifetime cancer risk for exposure to soil and groundwater contaminants under the RME scenario is $1.4 \times 10^{-4}$ and under the CTE scenario is $1.3 \times 10^{-5}$. This combined risk is primarily attributable to arsenic with 1,1,2-trichlorethane, chloroform, and vinyl chloride providing only a small incremental cancer risk. However, as previously mentioned, arsenic was not detected in the filtered sample of groundwater. Removal of the risk associated with arsenic results in a combined RME risk of $2 \times 10^{-5}$, which falls within EPA's target risk range. Moreover for the adult and child separately under the RME scenario, the risks are within the target risk range. For the resident (adult and child combined) under the CTE scenario, the cumulative lifetime cancer risk is within the target risk range. Moreover, the maximum detected groundwater concentrations of the constituents causing the potential risk are all less than their respective drinking water standards [Maximum Contaminant Levels (MCLs)].

### Ecological Risks

As stated above, the Navy completed additional sampling for the BERA in August 2000. Prior to the BERA, mercury was detected at concentrations in one soil sample that exceeded the ecological benchmark that could potentially impact the earthworm community. During the BERA investigation, the extent of mercury contamination and its toxicity to earthworms were further evaluated at Site 8 in surface soil. The extent of mercury contamination was bounded and localized in a small area. Based on the results of the earthworm samples and food chain modeling, it was concluded that risks to small mammals and birds that consume earthworms (that have accumulated mercury) at Site 8 are expected to be low.

### Summary of Risks

Concentrations of contaminants still present in the Site 8 soil following the removal action do not present a threat to human health or ecological receptors. Concentrations of contaminants in groundwater, when used for domestic purposes by potential future residents, may result in unacceptable carcinogenic and noncarcinogenic risks under the more conservative scenario (RME) but results in acceptable risks under a more realistic exposure scenario (CTE). Concentrations of contaminants in groundwater do not constitute a discernible plume and are not present at concentrations greater than their respective MCLs. Furthermore, because of the presence of a public water supply, use of groundwater for domestic purposes at Site 8 is unlikely.

Based on the findings above, no further action would be required for soil or groundwater at Site 8.

## SUMMARY OF THE PREFERRED ALTERNATIVE

The preferred alternative for Site 8 is no further action because there are no unacceptable risks under current or future exposure scenarios. The Navy's interim removal action successfully addressed historic site contamination and risks.

## COMMUNITY PARTICIPATION

The Navy and EPA provide information regarding the cleanup of the former NSWC-White Oak to the public through public meetings, the Administrative Record file for the site, the information repository, and announcements published in the *PG Journal, Montgomery Journal, Silver Spring Gazette, College Park Gazette,* and *Burtonsville Gazette*. The Navy and EPA encourage the public to gain a more comprehensive understanding of the site and the BRAC activities that have been conducted at the site. The dates for the public comment period, the date, location, and time of the public meeting and the location of the Administrative Record and Public Repository are provided on the front page of this Proposed Plan.

Minutes of the public meeting will be included in the Administrative Record file. Comments during the public meetings will be summarized and responses will be provided in the Responsiveness Summary section of the ROD. The ROD is the document that will present the selected remedy and will be included in the Administrative Record file.

Written comments can be submitted via mail, e-mail, or fax and should be sent to the following addressee:

Mr. Walter Legg
BRAC Environmental Coordinator
Engineering Field Activity Chesapeake
1314 Harwood Street, SE
Washington Navy Yard, Washington D.C. 20374-5018
Telephone: (202) 685-0061
Facsimile: (202) 433-7018
E-mail: walegg@efaches.navfac.navy.mil

For further information, please contact:

Mr. Bruce Beach
Remedial Project Manager
U.S. Environmental Protection Agency
1650 Arch Street (3HS13)
Philadelphia, PA 19103-2029
Telephone: (215) 814-3364
Facsimile: (215) 814-3051
E-mail: beach.bruce@epa.gov

Mr. Jeff Thornburg
Remedial Project Manager
Maryland Department of the Environment
Federal/NPL Superfund Division
2500 Broening Highway
Baltimore, MD 21224-6020
Telephone: (410) 631-3440
Facsimile: (410) 631-3472
E-mail: jthornburg@mde.state.md.us

Mr. Steven Richard, Head
Safety, Environmental, and Fire Prevention Branch (WPYG)
General Services Administration
National Capital Region
7th and D Streets, SW, Room 2080
Washington, DC 20407
Telephone: (202) 708-5258
Facsimile: (202) 708-6618
E-mail: steve.richard@gsa.gov

## GLOSSARY OF TERMS - SITE 8 PROPOSED PLAN

This glossary defines the terms used in this Proposed Plan. The definitions apply specifically to this Proposed Plan and may have other meanings when used in different circumstances.

**Administrative Record File:** A record made available to the public that includes all information considered and relied on in selecting a remedy for a site.

**Background Concentrations:** Concentrations of chemical compounds in environmental media that are representative of naturally occurring conditions or that may be attributable to historic, widespread human activity.

**Baseline Risk Assessment:** A study conducted as a supplement to an RI to determine the nature and extent of contamination at an NPL site and the risks posed to human health and/or the environment.

**Comment Period:** A time for the public to review and comment on various documents and actions taken, either by the Navy, EPA, or MDE. A minimum 30-day comment period is held to allow community members to review the Administrative Record file and review and comment on the Proposed Plan.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):** A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act created a special tax that goes into a trust fund to investigate and clean up abandoned or uncontrolled hazardous waste sites.

**Contaminant:** Any physical, biological, or radiological substance or matter that, at a high enough concentration, could have an adverse effect on human health or the environment.

**Feasibility Study (FS):** See Remedial Investigation/Feasibility Study.

**Groundwater:** Water beneath the ground surface that fills spaces between materials such as sand, soil, or gravel to the point of saturation. In aquifers, groundwater occurs in quantities sufficient for drinking water, irrigation, and other uses. Groundwater may transport substances that have percolated downward from the ground surface as it flows towards its point of discharge.

**Hazard Index (HI):** The ratio of the daily intake of chemicals from on-site exposure divided by the reference dose for those chemicals. The reference dose represents the daily intake of a chemical that is not expected to cause adverse health effects.

**Hazardous Substance:** Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

**Information Repository:** A file containing information, technical reports, and reference documents regarding an NPL site. This file is usually maintained in a place with easy public access, such as a public library.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to a level at which no known or anticipated health effects would occur, considering the feasibility of attaining the level by using the best available treatment technology and considering cost. MCLs are enforceable standards.

**Metals:** Metals are naturally occurring elements in the earth. Arsenic, cadmium, iron, mercury, and silver are examples of metals. Exposure to some metals, such as arsenic and mercury, can have toxic effects. Other metals, such as iron, are essential to the metabolism of humans and animals.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP):** The purpose of the NCP is to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, or contaminants.

**National Priorities List (NPL):** The EPA list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response.

**Organic Compounds:** These are naturally occurring or man-made chemicals containing carbon. Volatile organics can evaporate more quickly than semivolatile organics. Other organics associated with RI/FS activities include pesticides and polychlorinated biphenyls (PCBs). Some organic compounds may cause cancer; however, their strength as a cancer-causing agent can vary widely. Other organics may not cause cancer but may be toxic. The concentrations that can cause harmful effects can also vary widely.

**Polychlorinated Biphenyls (PCBs):** A family of man-made chemicals that contain 209 individual compounds. Because of their insulating and nonflammable properties, they have been used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. PCBs are considered to be very persistent organic chemicals.

**Polycyclic Aromatic Hydrocarbons (PAH):** A group of chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances. PAHs can be man-made or occur naturally.

**Proposed Plan:** A public participation requirement of SARA in which the lead agency summarizes for the public the preferred clean-up strategy and rationale for preference and reviews the alternatives presented in the detailed analysis of the FS. The Proposed Plan may be prepared either as a fact sheet or as a separate document. In either case, it must actively solicit public review and comment on all alternatives under consideration.

**Resource Conservation and Recovery Act (RCRA):** RCRA was enacted in 1976 to address the huge volumes of municipal and industrial hazardous waste generated nationwide. After several amendments, the Act as it stands today governs the management of solid and hazardous waste and underground storage tanks. RCRA focuses on active and future facilities and does not address abandoned or historical sites (see CERCLA).

**RCRA Facility Investigation (RFI):** An RFI is conducted at a site to evaluate thoroughly the nature and extent of the release of hazardous waste and hazardous constituents and to gather necessary data to support the Corrective Measures Study and/or interim/stabilization measures. This study is one of the four components of the Corrective Action Plan for a site under RCRA. The study is similar to a Remedial Investigation that is completed under CERCLA.

**Record of Decision (ROD):** An official public document that explains which clean-up alternative(s) will be used at NPL sites. The ROD is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns. The ROD explains the remedy selection process and is issued by the Navy following the public comment period.

**Remedial Action:** The actual construction or implementation phase that follows the remedial design for the selected clean-up alternative at a site on the NPL.

**Remedial Investigation/Feasibility Study (RI/FS):** Investigation and analytical studies usually performed at the same time in an interactive process and together referred to as the "RI/FS." They are intended to gather data needed to determine the type and extent of contamination, establish criteria for cleaning up the site, identify and screen clean-up alternatives for remedial action, and analyze in detail the technology and costs of the alternatives.

**Remedial Response:** A long-term action that stops or substantially reduces a release or threatened release of hazardous substances that is serious but does not pose an immediate threat to public health or the environment.

**Response Action:** As defined by Section 101(25) of CERCLA, means remove, removal, remedy, or remedial action, including related enforcement activities.

**Responsiveness Summary:** A summary of oral and written public comments received by the lead agency during a comment period and the responses to these comments prepared by the lead agency. The responsiveness summary is an important part of the ROD, highlighting community concerns for decision makers.

**Revegetate:** To replace topsoil, seed, and mulch on prepared soil to prevent wind and water erosion.

**Risk Assessment:** Evaluation and estimation of the current and future potential for adverse human health or environmental effects resulting from exposure to contaminants.

**Semivolatile Organic Compounds (SVOCs):** Chemical compounds that evaporate more slowly than a volatile organic compound at normal temperatures and pressures.

**Superfund:** An informal name for CERCLA.

**Superfund Amendments and Reauthorization Act (SARA):** The public law enacted to reauthorize the funding provisions and amend the authorities and requirements of CERCLA and associated laws. Section 120 of SARA requires that all federal facilities be subject to and comply with this act in the same manner and to the same extent as any non-federal entity.

**Volatile Organic Compounds (VOCs):** Chemical compounds that evaporate readily at normal temperatures and pressures.

## MAILING LIST

If you are not on the mailing list and would like to receive future publications pertaining to Site 8 or other sites at the former NSWC-White Oak as they become available, please call or complete, detach, and mail a copy of this form to the point of contact listed below:

Mr. Walter Legg
BRAC Environmental Coordinator
Engineering Field Activity Chesapeake
1314 Harwood Street, SE
Washington Navy Yard, Washington D.C. 20374-5018
Telephone: (202) 685-0061
Facsimile: (202) 433-7018
E-mail: walegg@efaches.navfac.navy.mil

Name: _____

Address: _____

_____

Telephone: _____

Affiliation: _____

## USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for Site 8 at the former NSWC-White Oak is important to the Navy. Comments provided by the public are valuable in helping the Navy select a final cleanup remedy for this site.

You may use the space below to write your comments, then fold and mail. Comments must be postmarked by February 25, 2002. Comments can be submitted via mail, e-mail, or fax and should be sent to the following addressee:


Mr. Walter Legg
BRAC Environmental Coordinator
Engineering Field Activity Chesapeake
1314 Harwood Street, SE
Washington Navy Yard, Washington D.C. 20374-5018
Telephone: (202) 685-0061
Facsimile: (202) 433-7018
E-mail: walegg@efaches.navfac.navy.mil


Name:_____

Address:_____

City:_____ State:_____ Zip:_____