The CERCLA Cleanup Process at Parcel C

Preliminary Assessment / Site Inspection (PA/SI)
complete

Remedial Investigation / Feasibility Study (RI/FS)
complete

Proposed Plan
Public Comment Period
complete

Record of Decision (ROD)
complete

Remedial Design / Remedial Action (RD/RA)
current phase

Site Monitoring / Maintenance
future

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, was created by Congress in 1980 to create a program to identify, investigate, and clean up hazardous wastes.

The Navy follows the CERCLA process during the cleanup at HPNS.

Parcel C Work Plan is Available for Review

The Navy has developed a work plan for the cleanup at Parcel C. The work plan summarizes the upcoming soil, soil gas, and groundwater remediation on Parcel C which will begin in the fall 2016.

The Navy encourages the public to review this document and provide comments. To read the document, you may visit one of the locations in the dark blue box at the bottom of this page, or contact Derek Robinson as described immediately below.

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Locations to Review Navy Cleanup Documents for HPNS

San Francisco Main Public Library
Government Information Center, 5th Floor
100 Larkin Street, San Francisco, CA 94102
(415) 557-4500

Hunters Point Naval Shipyard Site Trailer
(near HPNS security entrance)
690 Hudson Avenue, San Francisco, CA 94124

Navy's HPNS Website
www.bracpmo.navy.mil
⇒ Click on "BRAC Bases"
⇒ Click on "California"
⇒ Select "Former Naval Shipyard Hunters Point"

HPNS

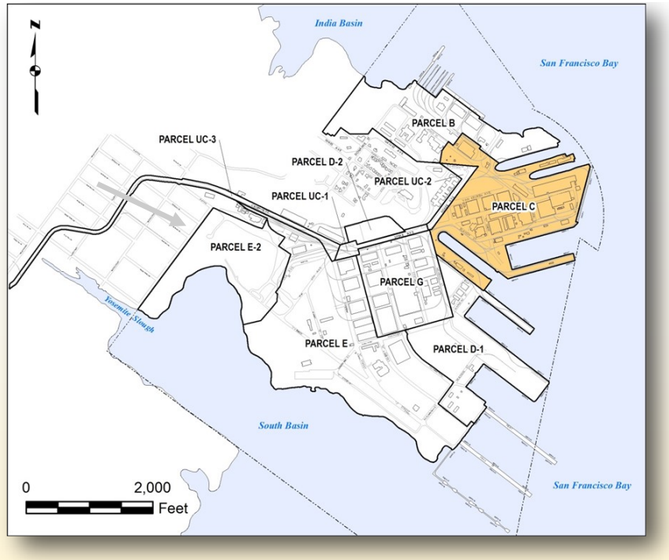
Hunters Point Naval Shipyard
Department of the Navy
Base Realignment and Closure (BRAC)

Parcel C Cleanup Update

July 2016

History of Parcel C

Parcel C is located in the eastern portion of Hunters Point Naval Shipyard (HPNS). The majority of the 73 acre parcel supported ship repair activities which included a foundry, power plant, sheet manufacturing shop, paint shop, and various machine shops.



Location of Parcel C at HPNS

Contaminants of Concern at Parcel C

he Navy has identified several contaminants of concern (COCs) on Parcel C in soil, soil gas, and groundwater. The COCs are a result of the historical use of equipment, fuels, and volatile organic compounds (VOCs) in support of ship repair and maintenance which resulted in areas of contamination within the soil and groundwater on the parcel. Historical use of VOCs included chemicals and fluids commonly used in equipment repair and maintenance, such as solvents, degreasers, and lubricants.

The table to the right outlines COCs on Parcel C.

Contaminants of Concern (COCs) at Parcel C

Media	COCs in Media
Soils	Metals, volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs)
Soil Gas	VOCs
Groundwater	VOCs and metals

Images of Soil Remediation at Parcel C

Contaminated soil is excavated and removed from the site on tarped trucks to help control dust during cleanup

Excavation areas are backfilled with clean fill material that is certified per DTSC guidelines and imported to the site

Excavation areas are compacted and restored with a durable asphalt cover

SVE systems will continue to remove VOCs from impacted soils until cleanup is complete

Planned Activities in 2016

Excavation and Soil Removal

Between 2013 and 2014, the Navy removed and disposed of more than 1,800 truckloads of contaminated soil at Parcel C. Excavations were backfilled with clean imported fill material that was sampled and certified according to California Department of Toxic Substances Control (DTSC) guidelines. Excavation areas were compacted and restored with a durable asphalt cover during 2015 and 2016 to help control dust on the parcel.

Soil Vapor Extraction

In 2014, a soil vapor extraction (SVE) system was installed and began operation at four locations to clean up unstable chemicals, known as VOCs, in the soil. In early 2016, the SVE systems were expanded to remove more VOCs near Building 134. The SVE process is described in greater detail to the right.

Planned Activities for Soil, Groundwater, and SVE

Beginning in fall 2016, the Navy will collect more soil and groundwater samples to help further determine the type and amount of contamination that remains below-ground which still requires treatment. Additional soil will be excavated from Buildings 251 and 253, and the SVE system in Building 253 will be adjusted to improve cleanup of VOCs remaining in soil.

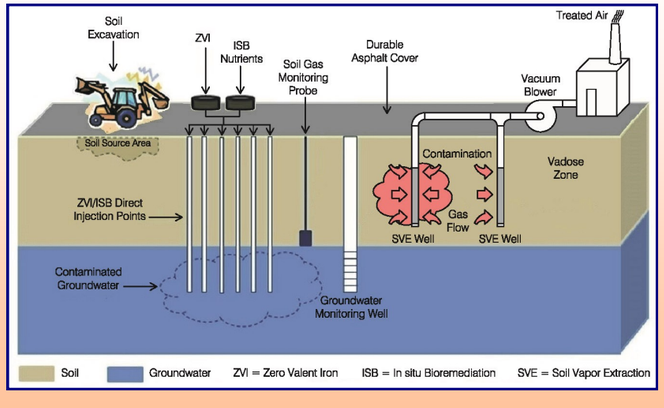
How Does Soil Vapor Extraction Work?

⇒ Extraction wells are installed into contaminated soil that is above the water table and is not saturated by groundwater; this area is known as the “vadose zone”.

⇒ A vacuum is installed and soil gas (vapor) is pulled through slots in the extraction wells. The process of pulling the gas through the slots removes the chemical gases, or VOCs from the soil.

⇒ The vapor moves through the contained SVE system to an above-ground treatment system where vapors are treated with activated carbon before being discharged into the atmosphere.

⇒ Air quality is continuously monitored to make sure that the system is working treating contaminants as designed.



Sketch of a typical SVE system

Groundwater Treatment

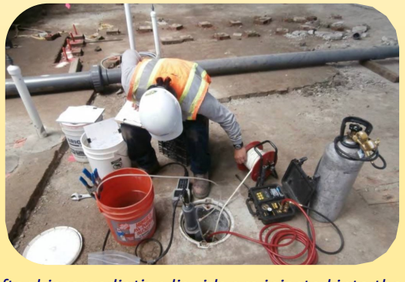
Treatment of more than 4.4 million gallons of impacted groundwater was conducted during 2013 and 2014. Groundwater was treated using insitu bioremediation, allowing for treatment of groundwater in-place, rather than taking it to an off-site facility for processing. Eco-friendly technologies were used to treat groundwater through injections of environmentally-friendly materials, including natural bacteria, lactate, zero valent iron (ZVI), and/or molasses. The type of material injected was based upon the analysis of the COCs in groundwater. For instance, ZVI (a fine black powder mixed with water prior to injection) is used to treat groundwater impacted with PAHs, but a molasses mixture is a more appropriate treatment for metals.

Planned Activities for Groundwater Treatment

Additional groundwater treatment and testing will be performed in 2016 and 2017 to ensure that site cleanup goals are met.

Insitu bioremediation involves the injection of environmentally-friendly materials to treat groundwater

Mixing tanks are used to blend ZVI powder with water before injection to treat groundwater contaminated by PAHs



After bioremediation liquids are injected into the groundwater, then regular sampling is performed to monitor the groundwater treatment progress

Molasses is mixed with water before injection to treat groundwater contaminated with metals