

Community

Environmental Newsletter

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Naval Base Point Loma, San Diego, CA



"This newsletter continues our commitment to keep the local Point Loma community informed on environmental matters at Naval Base Point Loma and the Defense Fuel Support Point (DFSP). Significant progress is being made, both on the environmental cleanup front and the replacement of our aging fuel facility, as discussed in the following articles."

CAPT Mark D. Patton
Commanding Officer

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Environmental Solutions for DFSP

In the last issue of the Community Environmental Newsletter, the approach and results of the environmental investigations at the DFSP were presented. Since then, the Navy, in partnership with the Defense Energy Support Center (DESC), has made significant progress in implementing the

Corrective Action Plan (CAP) for the facility. Temporary systems for cleaning up the fuel, installed between 2001 and 2005 to gain time for better solutions to be developed, are being replaced with a comprehensive, permanent system designed to create a barrier for further movement of the fuel plume and more

efficiently remove fuel from the ground. These systems are discussed in the "Fuel Recovery Systems" article below. This edition of the newsletter focuses on the current and future remediation systems for the DFSP, which demonstrate our continuing commitment to permanently resolve this problem.

Fuel Recovery Systems

Summary: Three temporary fuel extraction systems currently operating at the DFSP are being replaced by one permanent recovery system designed to significantly increase fuel and water extraction rates.

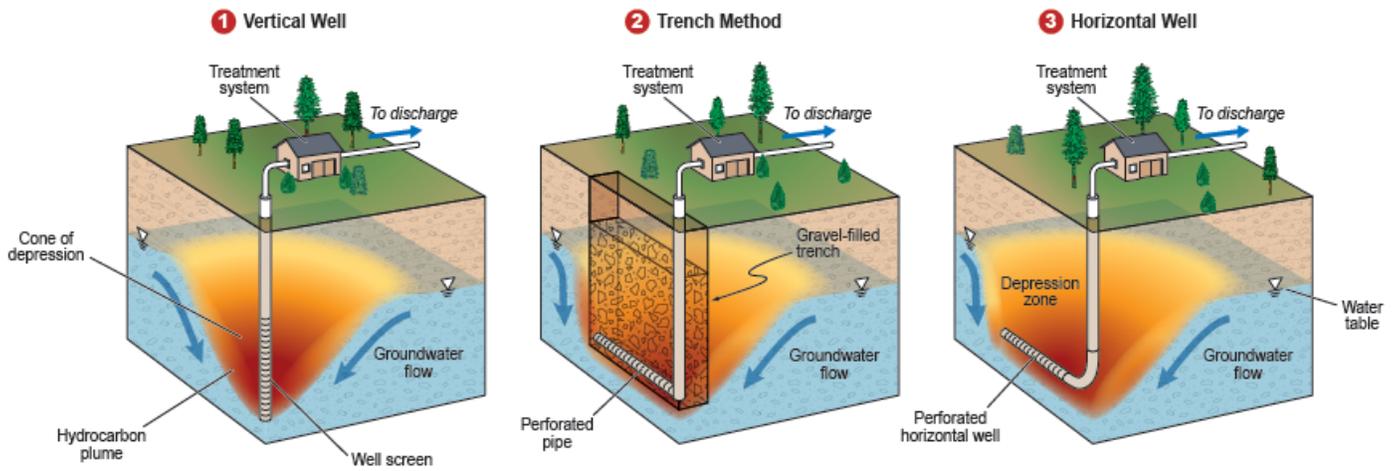
Temporary Systems:

Between 2000 and 2007, over 60 groundwater monitoring wells were installed both on and off NBPL property to investigate fuel releases and aid in controlling the movement of the fuel plume. Many of these monitoring wells were



converted to temporary recovery wells. These temporary fuel recovery systems have been expanded over time as the ongoing investigations have focused on identifying the full extent of the fuel plume. With the latest investigations

and state-of-the-art computer modeling complete, the boundary for the fuel plume is well defined. With this information, DESC has designed a long-term, durable recovery system that encompasses the known fuel plume. Construction of this system is discussed on Page 2.



Major Components of the New Recovery System at DFSP Point Loma

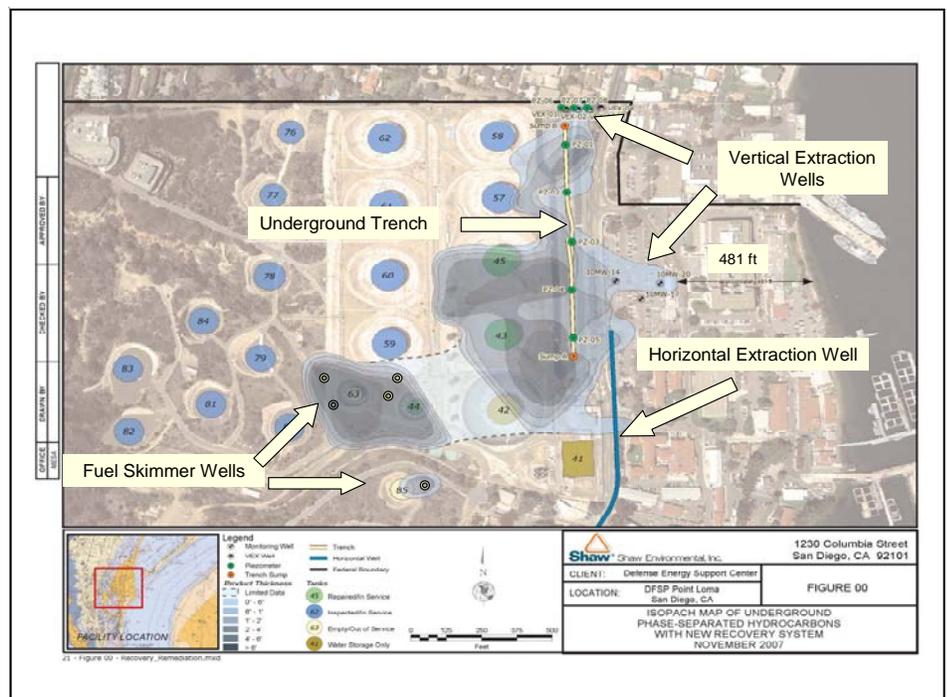
System Construction

New Engineered Recovery System

Construction of this new \$3 million system began in September 2007 using a proven design to recover fuel from deep underground while preventing further movement of the fuel toward San Diego Bay and the adjacent community of La Playa.

The new system has three major components for recovering fuel; (1) vertical extraction wells, (2) an extraction trench, and (3) a horizontal extraction well (See drawing above. The locations of the separate components are shown in plan view to the right).

Vertical Extraction Wells - The vertical extraction wells of this system have been placed in locations with limited access. Multiple wells are located along the northern boundary of NBPL to create a barrier to the flow of groundwater and fuel to the north. Some of the existing vertical wells will also be used to continue to remove fuel at the easternmost edge of the plume (bayside). Vertical wells are a proven and



(see "System" on Page 3)

System (continued from Page 2)

industry-standard technology for groundwater and fuel removal, and have been successful in containing the fuel plume since 2005. The water and fuel are pumped from the well continuously, creating a depression that allows fuel sitting on the groundwater to flow toward the well. Multiple wells have been installed to provide enough overlap in depressing groundwater to capture all of the free-flowing fuel in those areas.

Extraction Trench – A 1,000-foot long, 50-foot-deep extraction trench has been installed along the north-south axis of the fuel plume to more efficiently capture more groundwater and fuel as compared to the temporary systems. The “coarse backfill rock and pipe” trench create a pathway for water and fuel deep under the facility to collect for extraction from the ground by large sump pumps. This type of drain is the most effective way to

get the fuel from underground because of the dense soil beneath the DFSP Point Loma. At the north and south ends of the trench, deep sumps with high-velocity pumps have been installed to remove the fuel, and to create a depression in the groundwater table to prevent fuel from moving toward the San Diego Bay.

Horizontal Well – Trenching between Rosecrans Street and San Diego Bay was not practical due to underground utilities (water, sewer, gas) and buildings. To clean up the fuel plume east of Rosecrans Street, a horizontal well was installed using directed drilling techniques adapted from the oil fields. The borehole was drilled at a shallow angle to a depth of about 40 feet before flattening to horizontal. After drilling to a target length of 960 feet, a stainless-steel well casing was installed

and plugged at one end. The horizontal well acts as a drain in a manner similar to the trench but without the gravel backfill. An oil-field type pump removes water and fuel while depressing the groundwater to prevent further movement.

All three of these system components are designed to act in concert and create an underground barrier to prevent further movement of the fuel plume and clean up all the fuel that can be recovered. The fuel extracted from the wells and trench is pumped to the DFSP Point Loma reclamation plant for recycling.

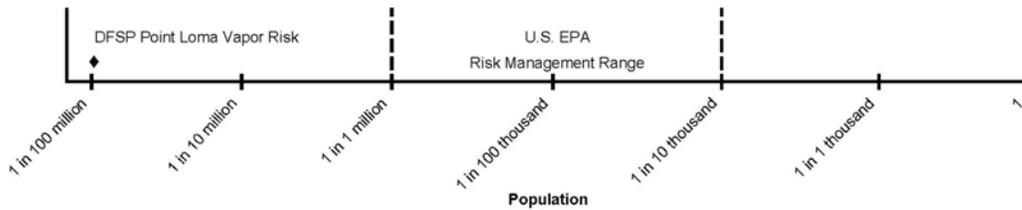


Risk Monitoring

In 2006 a human health risk assessment was completed to look for health risks to residents and site workers from contact with the soils, blowing dust, and soil vapors. The results of the assessment indicated no health threat to the nearby residents or workers at DFSP Point Loma fuel facility. For example, the excess

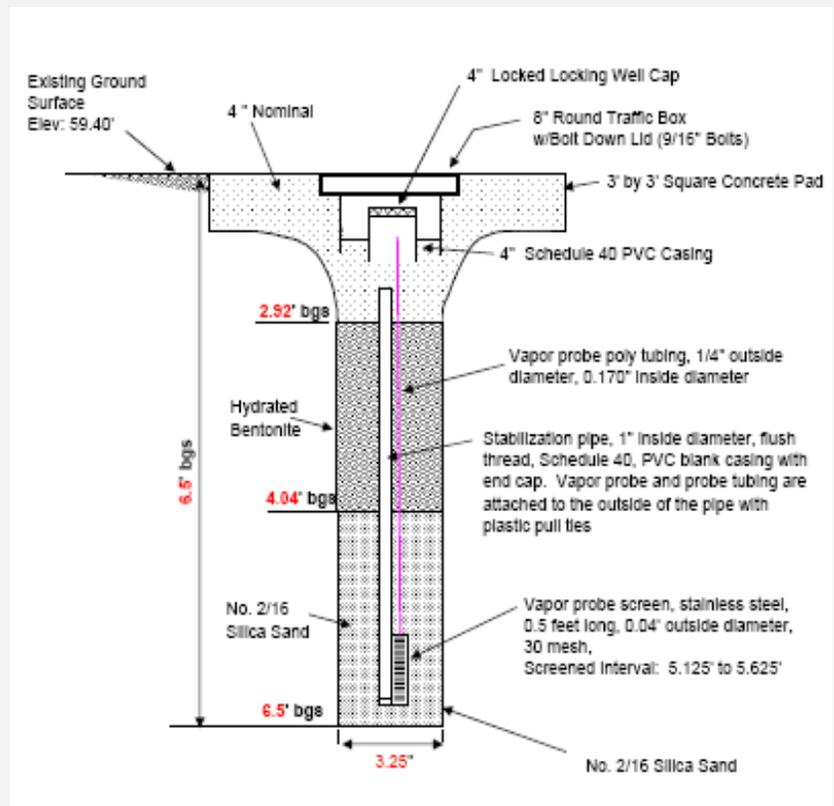
lifetime cancer risk (ELCR) is two-in-one hundred million, well below a recognized cancer risk range of between one-in-one million and one-in-ten thousand. Since the initial assessment was completed, the Navy has continued to collect soil vapor samples on a routine basis for testing.

These test results are closely scrutinized by health professionals to look for any changes. This soil vapor monitoring has shown no change in risk associated with the fuel plume.

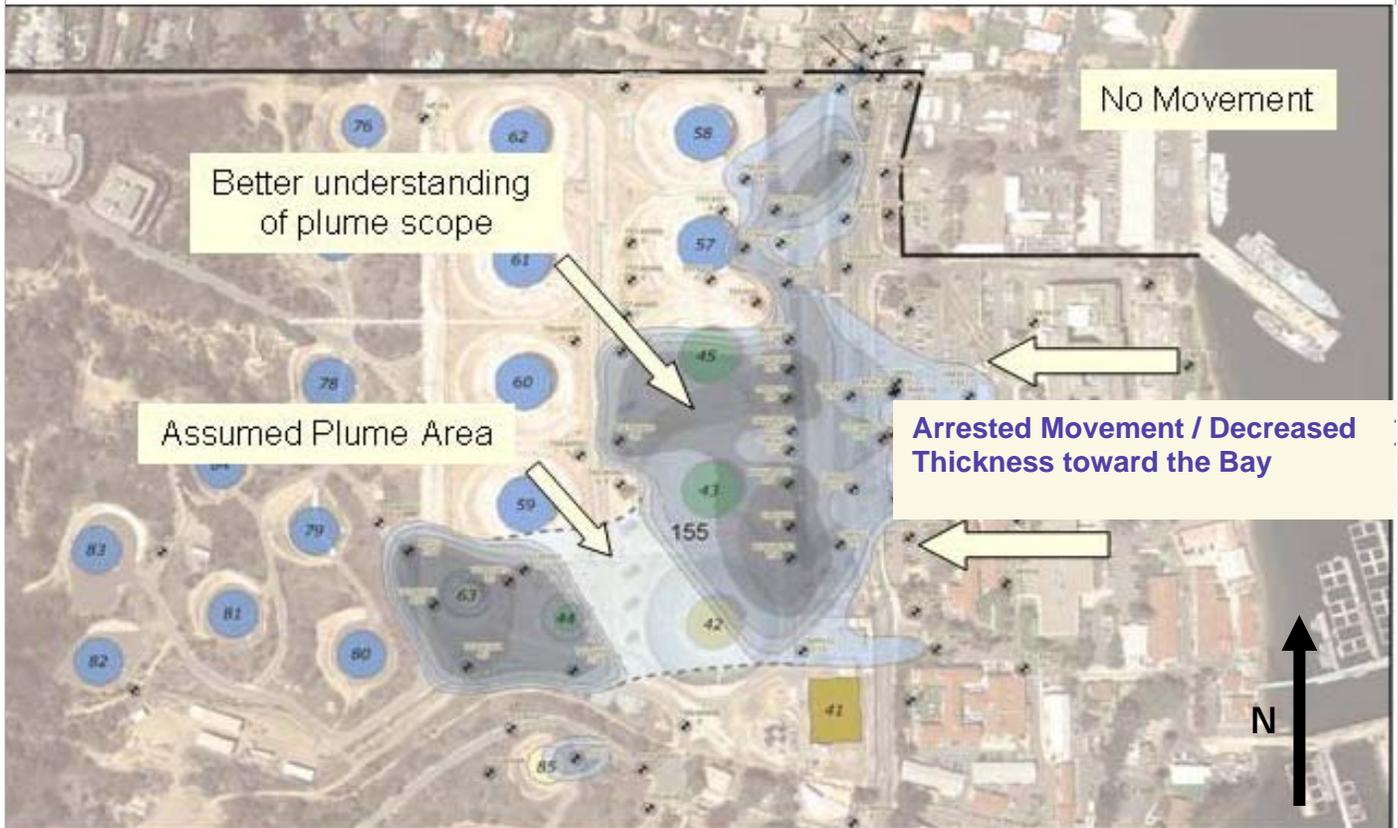


How is Soil Vapor Monitored?

Monitoring of the soil vapors is accomplished using specially-constructed probes like the one shown to the right. The probes have a small screen which is generally located about 5 feet below the ground surface. This depth is used to avoid inference from background chemicals commonly found in our surroundings. The testing of chemicals uses extremely sensitive instruments in a laboratory to measure the chemical concentrations in the air collected from the probes. Measurements at the surface can be affected by a passing automobile, fresh paint, and the like. Therefore, the sealed probes are located to intercept any vapors which might migrate from the plume (approximately 40 to 50 feet below the ground surface). The 5-foot deep screen is connected to a valve at the surface by tubing. Samples are collected into special stainless-steel canisters and shipped to a laboratory for testing. Under laboratory conditions, the vapor contained in the canisters is tested for a variety of chemicals common to diesel and jet fuels that could cause health problems.



Site Monitoring (System Performance)



Monitoring of the temporary recovery system's performance is done on a daily basis. Sentry wells (wells that are located outside of the fuel plume) are checked weekly to look for any change in condition or movement of the plume. Biweekly and monthly, other wells in the plume area used for fuel recovery are checked to measure the fuel thickness.

In cooperation with the Regional Water Quality Control Board, the Navy has developed a comprehensive program to provide ongoing monitoring of the groundwater and the fuel plume. Groundwater samples and soil vapor samples are collected from representative wells and probes for chemical testing. The laboratory results of the monitoring are provided by DESC to the RWQCB in periodic monitoring reports. These reports are also posted to

the California State Water Resources Control Board's [Geotracker](http://www.geotracker.swrcb.ca.gov) website for public viewing (www.geotracker.swrcb.ca.gov). Copies of these monitoring reports are also placed in the information repository at the Point Loma Public Library.

Groundwater Level and Fuel Plume Thickness Monitoring - The monitoring and extraction wells at DFSP Point Loma are measured frequently to assess the operation of the fuel recovery systems. This constant monitoring and measurement provides a good picture of the progress of fuel extraction and the amount of depression seen in the groundwater table. As shown above, the

periodic thickness measurements indicate that no movement has taken place in the northern area for over two years. On the western side of the plume the recovery efforts have resulted in arresting movement and decreasing thickness at the leading edge.

Groundwater Sampling - The Navy is also concerned about the potential for dissolved fuel components in the groundwater. Groundwater samples are taken from sentry wells outside the plume area. Chemical tests are done on these samples to look for any fuel chemicals and changes in concentration. The results to date show that dissolved fuel chemicals are not migrating separately toward San Diego Bay.

The Future of DFSP Point Loma (Update)

The DFSP Point Loma is the primary DOD fuel storage and dispensing facility on the West Coast. To meet the needs of the Navy and U.S. Department of Homeland Security, plans have been finalized to upgrade the facility to a new state-of-the-art fuel terminal, with new, 21st century bulk-fuel storage tanks, piping, and support facilities. Funding for the start of the tank

replacement project has been authorized by the Federal Government and Phase 1 of the Navy's contractor acquisition schedule has been completed. An Environmental Assessment (EA), required by the National Environmental Policy Act of 1969 (NEPA), was prepared by the Navy and a Finding of No Significant Impact (FONSI) was signed by the

Commander, Naval Installations Command. With the completion of the project design and necessary environmental documentation, the Navy is rapidly moving to award the construction contract by the end of this fiscal year (September). With the completion of the EA, design, and initial acquisition, the DOD has reached an important milestone in this project.

The anticipated schedule for demolition of the existing facility and construction of the new tanks will be phased over a 4-year period to maintain active fueling capability to support critical operations.

Over the next year, public meetings will be held to disseminate information.



MILCON P-401 TANK REPLACEMENT PROJECT

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Community Outreach

The Navy remains committed to keeping the residents of Point Loma and people who work and live at NBPL informed about relevant environmental matters at NBPL and the DFSP Point Loma facility. CAPT Patton, the environmental staff at NBPL, and DESC have hosted several public meetings and briefings for the community residents and San Diego City

and County leadership. These include:

- Townhall meetings in January, April, and December 2006, and November 2007
- Regularly scheduled meetings between the Navy and the Community Liaison Working Group, which includes representatives of

several local organizations.

- Interviews with the local news media.
- Maintaining an information repository at the Point Loma Community Library.
- Frequent interface with the staff for Representative Susan Davis and Councilman Kevin Faulconer.

Points of Contact

For additional information, the following points of contact are available:

Naval Base Point Loma – Mr. John Shipley (619) 553-8600, e-mail john.shipley1@navy.mil

City of San Diego, Councilman Kevin Faulconer’s Office – Mr. Matthew Awbrey (619) 236-6992, e-mail mawbrey@sandiego.gov

California Regional Water Quality Control Board – Region 9 Mr. Brian McDaniel (858) 627-3927, e-mail bmcdaniel@waterboards.ca.gov

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We're on the Web!
See us at:
www.cnrc.navy.mil/PointLoma/