

FACT SHEET: FORMER DEFENSE FUEL SUPPORT POINT NORWALK Remediation of Soil and Groundwater Plume January 2008



THE IMPORTANCE OF COMMUNITY PARTICIPATION

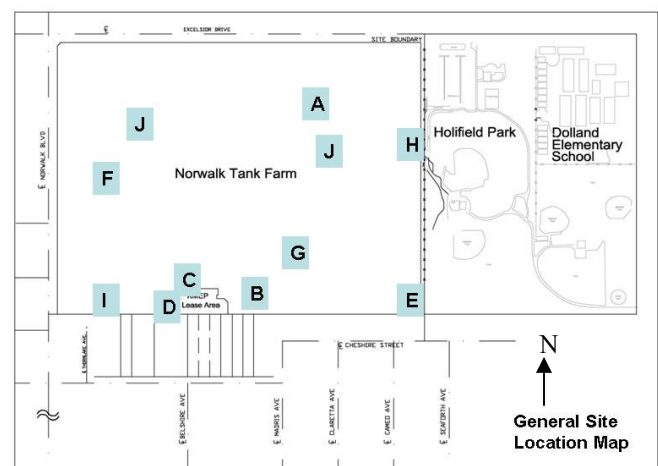
The California Regional Water Quality Control Board for the Los Angeles Region (Water Board) is providing the community with this fact sheet about environmental investigations and cleanup activities for the former Defense Fuel Support Point (DFSP) Norwalk, or Tank Farm as it is normally referenced, and Holifield Park in Norwalk. In particular, this fact sheet summarizes the progress and outlook of subsurface environmental investigation and cleanup at the former Tank Farm and Holifield Park area in the city of Norwalk.

Since 1994, the Water Board has been working together with the Restoration Advisory Board to offer opportunities for community involvement. Results of the investigations and cleanup activities are communicated in a timely manner to the community through newsletters and face-to-face Restoration Advisory Board meetings or other community meetings as appropriate. The Defense Energy Support Center (DESC) also hired a facilitator to provide public notices to maintain an information depository at Norwalk Regional Library, and to circulate notices about the meeting. We encourage community members to contact us at any time with questions or concerns about our efforts.

SITE HISTORY

The former Tank Farm, owned by the U.S. Air Force, was developed on 70 acres of farm land during 1940's for storage and tanker distribution of fuel at the southeast corner of Excelsior Drive and Norwalk Boulevard. From the 1960s to 1998, the DESC stored and distributed jet fuels using twelve 80,000-barrel and 55,000-barrel aboveground storage tanks and associated pipelines.

In the 1970s, the city of Norwalk acquired about 10 acres of the eastern portion of the tank farm and redeveloped it as a park. At the same time, the Norwalk La Mirada Unified School District purchased several acres and constructed Dolland Elementary School at east side of the park.



In 1985, DESC initiated environmental investigations when a contractor's excavation encountered fuel. In 1998, DESC ceased fuel storage and distribution at the Tank Farm, and started decommissioning the facilities.

SITE HISTORY (CONTINUED)

To date, all fuel supplies have been removed, and the tanks have been cleaned. However, demolition has not been completed, and the schedule for this activity has not been finalized.

Kinder Morgan Energy Partners, L.P. (Kinder Morgan) leases a two-acre easement on the south side of the facility, as indicated by "B" in the Figure on Page 1. Kinder Morgan previously operated a pump station within the easement and pumped fuel into and out of the facility. The pump station has been decommissioned, but three pipelines under the easement remain in service to deliver gasoline, diesel, and jet fuels.

Under the oversight of the Water Board, DESC and Kinder Morgan have been conducting environmental investigation and cleanup at the Tank Farm and vicinities since early 1990's.

BTEX

BTEX is the abbreviation used for four compounds, often found together, in petroleum products: benzene, toluene, ethylbenzene and xylene. BTEX is found in petroleum products such as diesel fuel, home heating oil and gasoline. When released, BTEX has the ability to dissolve into water, allowing it to move in the groundwater. Since BTEX can also "stick" to soil particles, these chemicals may move slower than the groundwater. Exposure to BTEX can occur by ingestion (consuming water contaminated with BTEX), inhalation (exposure to BTEX present in the air) or absorption through the skin. According to the U.S. Environmental Protection Agency (U.S. EPA), benzene is a human carcinogen. Workers exposed to high levels of benzene in occupational settings were found to have an increase occurrence of leukemia.

MTBE

Methyl tertiary-butyl ether (MTBE) is a fuel additive made, in part, from natural gas. MTBE evaporates when exposed to air. It dissolves when mixed with water and is 10 times more soluble than benzene in water. Human health effects associated with breathing or otherwise consuming smaller amounts of MTBE over short or long periods of time are not known.

DETECTED CHEMICALS AND POSSIBLE RISK OF EXPOSURE

Contaminants detected in soil and groundwater have primarily been jet fuels on the Tank Farm facility and lighter fuel (mainly gasoline) near the southeastern corner of the facility. The main contaminants of concerns include BTEX and fuel oxygenate MTBE. In addition, low level of 1,2-Dichloroethane was detected mainly on the northwestern part of the facility. Details on all detected contaminants and their levels are provided in reports available at the information repository identified at the end of this fact sheet.

Onsite, the risk of direct exposure to contaminated soil is limited because the contamination in soil is being remediated. Direct exposure is further limited because most of the site is covered with asphalt/concrete parking lots, roadways and buildings.

There is no health risk for human exposure through drinking water from this area because the water production wells in the vicinity are not pumped. Moreover, majority of water supply for the users in this neighborhood is imported from either Northern California or Colorado River.

As fuels contain volatile organic compounds (VOCs), such as BTEX and 1,2-Dichloroethane, which can volatilize and travel as vapor in soil, the cleanup team is confirming that vapor emissions from the groundwater plume are not intruding into buildings and homes. In general, health risk assessment results based on initial data indicate that the potential human health risks by exposure from breathing VOCs from soil or groundwater are *de minimus* - this means the residuals in subsurface soil, soil gas and groundwater do not elevate any health risks under the current conditions with ongoing cleanup activities. Continuous remediation efforts will further reduce any potential human health risks in the area.

CLEANUP ACCOMPLISHMENTS TO DATE

Under the oversight of the Regional Water Quality Control Board, Los Angeles Region, Kinder Morgan began full-scale cleanup in 1995, primarily in the south-central area (see figure on Page 1, area C), both on- and off-site (figure on Page 1, area D), and the southeast area (figure on Page 1, area E). DESC's full scale cleanup system became operational in 1996, primarily in the north-central area (figure on Page 1, A). Both cleanup systems used a combination of technologies to treat soil, soil gas and groundwater beneath the site, including **soil vapor extraction** and **free product** and **groundwater recovery and treatment**. A series of groundwater wells were set up along the western site boundary, called the West Side Barrier System, to help prevent the chemicals from migrating further off-site to the west (figure, area F). Groundwater extraction for this system began in 1996. DESC installed a **biosparge** system in 1999. Additional biosparge wells were added in 2001 and 2004 (figure, area J). In 1999, Kinder Morgan planted 80 poplar trees in the southwest area to act as a natural pump and treat system to remove hydrocarbons from the groundwater (figure, area I).

After the facility closed in 2001, DESC began investigation of the former Truck Fill Stand area (figure, area G). Vapor extraction wells were installed in this area in 2004 and expanded to address impacted soil in area B. The wells were connected to the DESC treatment system in the north-central area.

DESC and Kinder Morgan have been jointly investigating fuel contaminants in soil gas, soil, and groundwater along the eastern boundary of the facility and the abutting Holifield Park.

Figures (RAB presentation, 2007) on Page 4 show snap shots of the contaminated groundwater plumes in 1996 versus the one in 2006, after 10 years of cleanup efforts. Since 1996, at least 422,000 gallons of hydrocarbons have been removed by DESC and 453,000 gallons by Kinder Morgan.

CURRENT STATUS

In addition to the ongoing investigation and cleanup efforts on the Tank Farm and the Kinder Morgan leased an easement, Water Board has directed both DESC and Kinder Morgan to conduct additional tests and expand the remediation system to address the detected subsurface petroleum impact near and beneath a small portion of the Holifield Park, in order to safeguard the wellbeing of the local residents and the people using the Holifield Park.

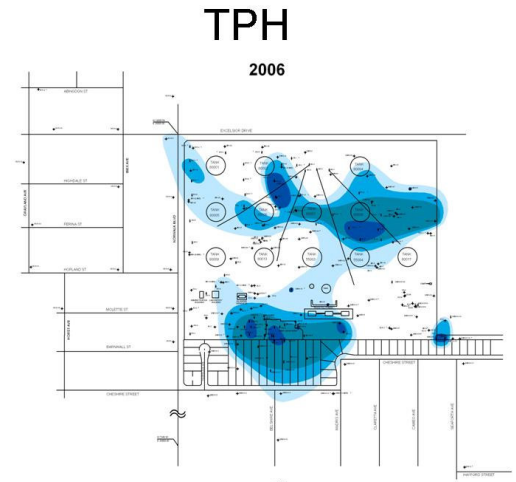
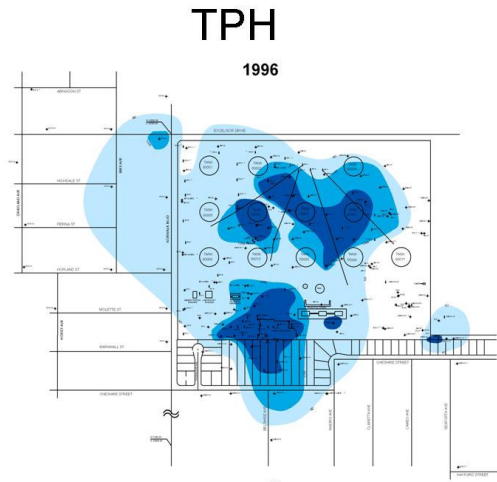
FUTURE INVESTIGATIONS AND CLEANUP ACTIVITIES

To address the remaining environmental issues, DESC and/or Kinder Morgan, through their consultants, will implement the following programs to achieve cleanup goals:

- Continue removing residual free product using absorbent socks (sponge-like devices that can absorb up to two gallons of fuel from within a well).
- Investigate and remediate areas known to have high impacts but have not been addressed previously, including the Powerine basin (figure, near letter A), the holding/settling tank to the northeast of the site, and areas adjacent to and beneath the tanks.
- Expand existing cleanup system to cover the remediation needed at the Holifield Park.
- Monitor the soil vapor and groundwater at the Holifield Park along the Dollan Elementary School vicinity for potential migration from the current impacted area.
- Extract vapors using soil vapor extraction to reduce contaminant levels.
- Continue pump and treat the contaminated groundwater to meet water quality for beneficial uses.
- Continue soil vapor extraction/*bioventing* or *expanding* biosparging.

Total Petroleum Hydrocarbons Plume in 1996
(Before Remediation)

Total Petroleum Hydrocarbons Plume in 2006
(After 10 Years Remediation)



FOR MORE INFORMATION...

If you have any questions or comments on the environmental cleanup of the former DFSP Norwalk, please contact one of the representatives listed below:

Or, visit the information repository to review RAB meeting handouts, minutes, and project documents:

Steve Osborn
Remediation Project Manager
Kinder Morgan Energy Partners
P.O. Box 1318, Rocklin, CA 95677
(916) 624-2431
OsbornS@kindermorgan.com

Jeffrey Hu
Project Manager, California Regional
Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6736
ghu@waterboards.ca.gov

*Information Repository
Norwalk Regional Library
Reference Section
12350 Imperial Highway
Norwalk, CA 90650
Phone: (562) 868-0775
M, Tu, W: 10:00 a.m. to 8:00 p.m.
Th, F: 10:00 a.m. to 6:00 p.m.
Sa: 10:00 a.m. to 5:00 p.m.
Closed Sundays and holidays.*

Kola Olowu
Facilities and Distribution
Business Unit
Defense Energy Support Center
8725 John J. Kingman Road,
Ste 2941
Fort Belvoir, VA
(703) 767-8316
kolowu@desc.dla.mil

Tim Whyte
Public Involvement Specialist
URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
(714) 648-2851
tim_whyte@urscorp.com