



Greenpoint Petroleum Remediation Project

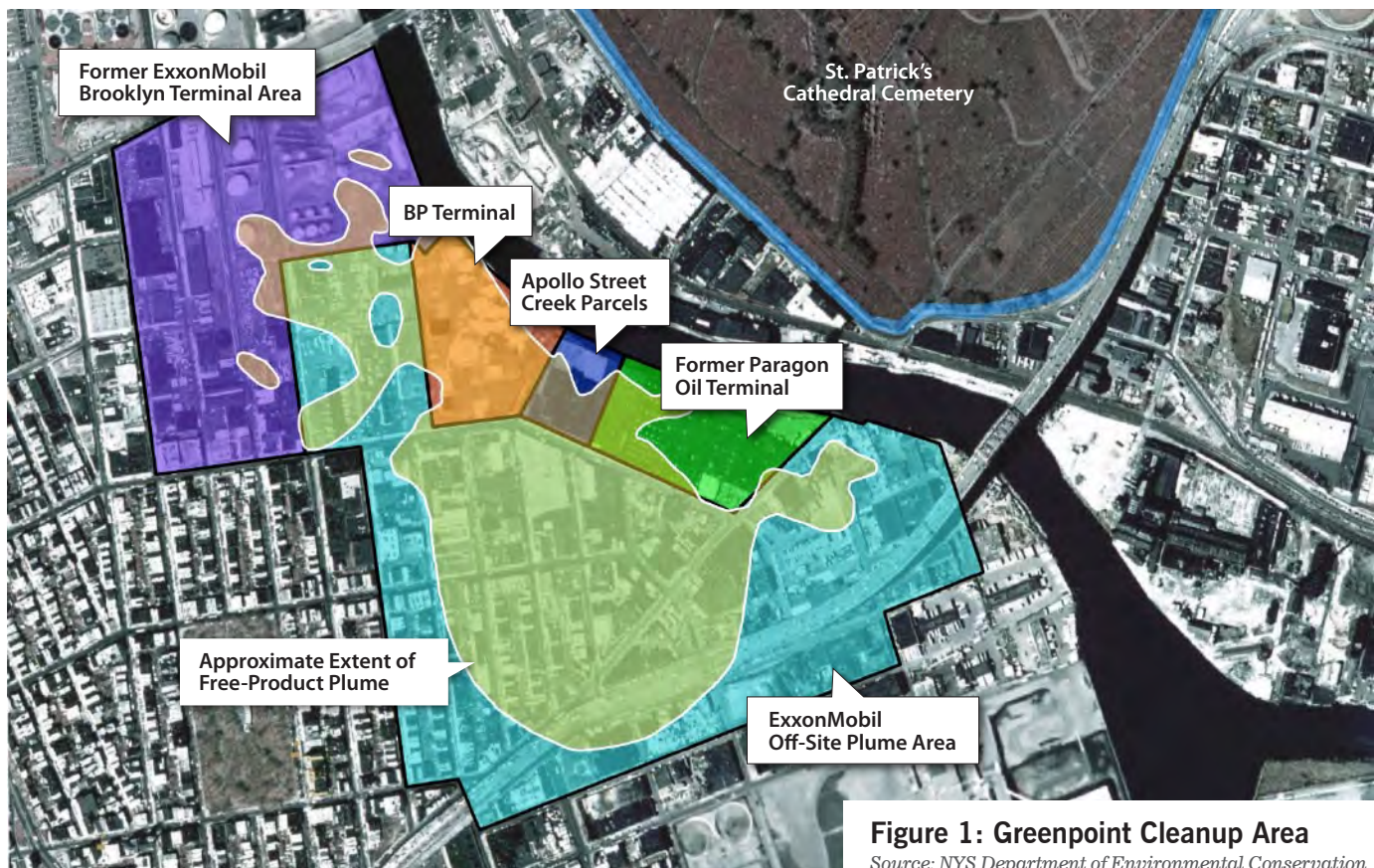


The New York State Department of Environmental Conservation (NYSDEC) is pleased to provide this factsheet with the latest updates on the Greenpoint Petroleum Remediation project sites and related activities.

Background

The northeast area of Greenpoint has been a site of heavy industrial and petroleum refinery operations for over 140 years. In September 1978, a routine U.S. Coast Guard helicopter patrol identified a sheen of oil entering Newtown Creek from the area at the end of Meeker Avenue. A subsequent investigation took place in 1979 and concluded that approximately 17 million gallons of petroleum products were located beneath the soil in the Greenpoint area. More recent analysis by the NYSDEC indicates that likely over 20 million gallons of petroleum product were released into the soil. The product consists of a blend of petroleum-related liquids (oil, kerosene, gasoline, etc.) that rest at the top of the groundwater table as a free product plume.

Product recovery systems have been in place since 1979 with a major upgrade completed in 2008, and recovery currently is being conducted by three parties within several distinct areas under agreement with the NYSDEC: ExxonMobil is remediating the majority of the former Standard Oil Refinery including offsite impacts; BP is remediating the distribution terminal they still utilize which, prior to its purchase, was part of the former refinery property; and Texaco is remediating the former Paragon Oil Terminal (the current location of the Empire Merchants distribution facility), and adjacent Apollo Street Creek Parcels. As of June 30, 2012, over 12 million gallons of petroleum product has been recovered, and over 4 billion gallons of groundwater from beneath the site has been treated and discharged. Figure 1 provides a general idea of the area impacted by petroleum contamination and identifies the sites under agreement with the NYSDEC.



Summary of Greenpoint Petroleum Remediation Sites and Project Activity

ExxonMobil Greenpoint Petroleum Remediation Project (EMGPRP) (formerly ExxonMobil Terminal and ExxonMobil Off-Site Plume)

As the current successor to Standard Oil, ExxonMobil has been involved in remedial activities in this area since the late 1970s. ExxonMobil operates two product recovery systems in the Greenpoint area: the On-site treatment system located on the former refinery property at 400 Kingsland Avenue; and the Off-site treatment system located at the corner of Bridgewater Street and Meeker Avenue (see Figure 1).

In March 2011, a Federal Consent Decree (“Decree”) was executed between the State of New York and ExxonMobil Corporation which supersedes the requirements of the previous consent orders at these sites. The Decree describes the requirements that ExxonMobil must meet to fulfill its environmental responsibilities resulting in a comprehensive remedy for the site. The Decree also required ExxonMobil to pay \$19.5 million in Environmental Benefit Projects to the Greenpoint community as well as additional civil penalties and Natural Resource Damages.

Per the Decree, ExxonMobil is in the process of developing or implementing a set of work plans and reports to evaluate the current extent of contamination on the site, examine the relationship between different types of impacted media (e.g., free product vs. contaminated groundwater), and develop new remediation strategies. One of the reports currently under development is the Conceptual Site Plan (CSP), which divides the site into 8 areas of analysis (“operable units”). A comprehensive investigation has been initiated for each operable unit. Additionally, an alternatives analysis report (AAR) will be completed for each operable unit to examine groups of potential remedies and propose a potential final remedy. Each of the AARs will be presented with the proposed remedy for public input prior to selection of a final remedy. The various reports and workplans required under the Consent Decree are further described on NYSDEC’s Greenpoint public web site at www.nysdecgreenpoint.com.

As part of implementing the requirements of the Decree and in addition to the on-going, expanded investigations, several pilot studies and interim remedial actions are being undertaken or planned at the site to eliminate contamination or enhance and increase recovery of petroleum. These include:

- Completion of underground pipe removal and associated activities on and around the former ExxonMobil terminal to eliminate remaining sources of contamination.
- Installation and development of new product recovery wells as part of the on-site treatment system.
- An ongoing pilot study to assess if installation of a vibration unit within recovery wells can increase mobility and recoverability of petroleum contamination.
- A vacuum-enhanced recovery (VER) pilot study that will determine if this technology can increase free product recovery within existing recovery wells.
- Continued piloting and study of waterflooding and water pulsing in the former refinery area for additional and enhanced recovery of petroleum contamination.

Former Paragon Oil Terminal and Apollo Street Creek Parcels (Texaco Inc.)

Petroleum operations began on some of these properties as early as 1886 and by 1934 Paragon Oil Company was operating a petroleum distribution terminal on the property. The property was purchased by Texaco in 1960 and sold to Peerless Importers (now known as Empire Merchants) in 1968. In September 2005, Texaco, Inc. entered into a legal agreement with the NYSDEC for investigation and recovery of the petroleum beneath the Former Paragon Oil Terminal and to stop the seepage of petroleum into Newtown Creek. The legal agreement was modified in 2009 to require a comprehensive remediation of petroleum contamination at the property and at additional adjacent properties known as Apollo Street Creek Parcels (see Figure 1) that also were impacted by petroleum operations in the area.

Former Paragon Oil Terminal and Apollo Street Creek Parcels

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As an interim remedial measure to address petroleum seepage into Newtown Creek, Texaco installed 13 total fluids recovery (TFR) pump wells at the Former Paragon Oil Terminal and in areas of the Apollo Street Creek Parcel properties. In addition, Texaco took other measures to prevent impacts to the Creek, including installation of a grout containment wall, bulkhead sealing, and containment booms. The TFR pump wells remove both product and water from behind the bulkhead for subsequent separation and treatment. Containment booms prevent any remaining product from seeping into the Creek. The combination of measures taken by Texaco has stopped any migration of oil into Newtown Creek at their portion of the site.

Additional ongoing and planned activities at these sites include:

- Use of a depressurization system to reduce the potential for vapor migration from the sub-surface into site buildings.
- Regular monitoring of the pump wells and indoor air to determine the systems' effectiveness.
- Incorporation of a vapor phase recovery component into the TFR system that will remove residual volatile contamination to further reduce/remove contamination.
- Development of a comprehensive Alternatives Analysis Report (AAR) expected to be available at the end of 2012 or in early 2013. The AAR will present a detailed evaluation of potential remedial options at the property and will propose a potential final remedy. The NYSDEC will present a comprehensive remedy based on the overall protectiveness of human health and the environment for public input in 2013 before selection of the final remedy.

BP Terminal (BP Products of North America, Inc.)

The BP Terminal property located at 125 Apollo Street was purchased by the Amoco Oil Company (now known as BP) in 1968 from ExxonMobil and is a former part of the Standard Oil Refinery operations. The Terminal was constructed and began operating a fuel bulk storage facility in 1970 that still operates today as an active petroleum distribution facility. The property currently has 11 aboveground and 1 underground storage tanks and two loading racks, and a total storage capacity of about 5.9 million gallons.

To address past contamination at the site, BP has installed 13 dual phase recovery wells on the property. The wells use separate pumps to extract free product and contaminated groundwater. The recovered product is removed from the site approximately twice per year; and the contaminated groundwater is pumped to the former ExxonMobil terminal, treated, and is discharged to Newtown Creek under NYSDEC permit.

BP is in the process of designing and constructing its own full-scale groundwater treatment system (they are currently using the adjacent ExxonMobil treatment system). The new system should be active in 2013 and will provide BP with increased treatment capacity and flexibility.

Several additional upgrades to the remediation system are planned or underway at the site, including:

- Ongoing installation of a new recovery well (RW-14) south of Monitoring Well MW-7.
- Completed drilling of additional borings to evaluate the potential for additional free-product recovery in June 2012.
- Installation of two new monitoring wells to evaluate the need for additional recovery and remedial options.
- Modifications to the piping and equipment for recovery wells to help reduce potential downtime for recovery systems.

Most project documents can be viewed at www.nysdecgreenpoint.com/PublicDocuments.aspx. Please see the link for recent developments in the project.

For project-related questions or to obtain additional documents, contact Ed Hampston, NYSDEC, at (888) 459-8667 or exhampst@gw.dec.state.ny.us. For health-related questions, contact Dawn Hettrick, NYSDOH, at (518) 402-7860.

To receive announcements regarding future Greenpoint Petroleum Remediation factsheets and public meetings, please sign up for e-mail notification at <http://www.nysdecgreenpoint.com/Email.aspx>. The NYSDEC's Division of Environmental Remediation is committed to informing and involving the public during the investigation and cleanup of contaminated sites being addressed under the State's various remedial programs. In addition to the Greenpoint email notifications list, NYSDEC has established a Contaminated Sites ListServ by county across New York State. You may sign up for the applicable county ListServ(s) at the following link: <http://www.dec.ny.gov/chemical/61092.html>. As a ListServ member, you will periodically receive site-related information/announcements for all contaminated sites in the counties you select. It's quick, it's free, and it will help keep you better informed.

As part of NYSDEC efforts to reduce waste, future information will be provided only via these electronic distribution options, unless you provide a request to the project manager to remain on a mailing list to receive paper copies.

Por favor póngase en contacto con Ed Hampston, NYSDEC, en exhampst@gw.dec.state.ny.us si usted desea recibir este documento en español.

Prosimy o kontakt z Ed Hampston, NYSDEC, na exhampst@gw.dec.state.ny.us jeżeli chcesz otrzymać ten dokument w języku polskim.