

ExxonMobil Progress Greenpoint Community News

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ExxonMobil Reaches Accord with State of New York

ExxonMobil is pleased to report that it has reached an agreement with the State of New York regarding the remediation of contamination associated with its historical operations in Greenpoint. The Consent Decree provides for ExxonMobil to not only continue its current efforts to remediate an underground petroleum plume, but also establishes a comprehensive framework for remediation of soil, groundwater and soil vapor.

ExxonMobil has been working under the supervision of the New York State Department of Environmental Conservation to remove sub-surface petroleum products. Complex remediation projects such as Greenpoint, where petroleum products are underground and not easily accessed, take time to complete.

Projects like Greenpoint require a significant investment of resources. Under the Consent Decree, ExxonMobil will continue to pay the entire cost of its clean-up effort. That includes not only removing free product, but a number of other activities as well:

- > Extensive investigations of potential soil, groundwater and vapor contamination;
- > Ongoing monitoring of groundwater, soil, and air;
- > Quarterly technical progress meetings with regulators, as well as providing regular, comprehensive status reports,
- > Pilot tests of alternative new and innovative technologies with the potential to enhance the recovery effort.

Project Background

In 1978, the U.S. Coast Guard discovered a sheen on the surface of Newtown Creek, which had been used for nearly 200 years as an industrial waterway and urban discharge area.

A subsequent investigation revealed petroleum products on top of groundwater in a section of Greenpoint. The petroleum generally was 30–40 feet beneath the earth's surface. Corrective steps were taken to stop the seepage into the waterway. Since then, ExxonMobil, BP Amoco and Chevron Texaco together have recovered more than 11 million gallons of product. Unlike oil spills produced by a single event, this petroleum contamination accumulated over more than 100 years as a result of multiple releases by multiple contributors.

Environmental Benefit Fund

As part of the settlement, ExxonMobil agreed to establish a \$19.5 million fund for projects that benefit the environment in the Greenpoint community. This fund is nearly double the \$10 million that Greenpoint received in environmental projects as a result of the City's 2008 settlement with the State for violating pollution laws and failing to upgrade its \$4 billion sewage plant on a timely schedule.

The New York State's Office of Attorney General and Department of Environmental Conservation will select an independent outreach consultant to provide input from the Greenpoint community regarding the allocation of the funds. For more information on the fund, call the Attorney General's Environmental Protection Bureau at (212) 416-8446 or email Exxon.comments@ag.ny.gov.



Greenpoint Teens Make a Difference

We invite high school students from Greenpoint and Williamsburg to apply for the ExxonMobil Green Team, a paid summer program about environmental science and community engagement.

For more information, contact Tamea Tyler at ttyler@ymcanyc.org or (212) 912-2265.

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Open Letter to Residents

Welcome to the fourth issue of the *ExxonMobil Greenpoint Progress*, a newsletter designed to keep you—our neighbors—informed about ExxonMobil's activities. In 2010, we continued to see strong product recovery rates. The launch of a soil vapor extraction system, which was designed to address issues limited to a few isolated areas in Greenpoint's industrial area, also has proven extremely effective. We hope you will take a few minutes to learn more about the significant progress we achieved in 2010.

We're also pleased to report that an agreement between ExxonMobil and the State of New York, which will govern ExxonMobil's remediation of contamination associated with its historical operations in Greenpoint, has been submitted to the U.S. District Court and was approved in March 2011.

As 2011 progresses, ExxonMobil continues its aggressive efforts to maintain optimal recovery rates, tackle soil vapors and various pilot projects. These activities are just a few examples of ExxonMobil's commitment to Greenpoint.

Please visit our Web site at www.ourgreenpointcommitment.com to check out our new video on the Greenpoint Remediation Project. We also invite you to contact us if your group is interested in a community briefing or presentation on ExxonMobil's work in Greenpoint.

Carolina Asirifi
COMMUNITY LIAISON

In the Community...ExxonMobil, YMCA and NYU Team Up for Green Team



ExxonMobil Community Liaison Carolina Asirifi presented the Greenpoint YMCA with a \$25,000 contribution to its annual Strong Kids Campaign.

Greenpoint youth care about the environment and last summer a team of motivated teens got the opportunity to learn how they could make a difference. ExxonMobil teamed up with the Greenpoint YMCA and New York University to give 10 Brooklyn high school students an exclusive opportunity as a part of the newly formed "Green Team." Funded by a \$150,000 grant from the ExxonMobil Foundation, the Green Team program provided summer jobs for the teens who received education and training in a variety of subjects pertaining to the environment. The students were dispatched throughout Greenpoint to take part in park cleanups, lead workshops for young children, take samples, conduct studies and become environmental stewards.

"We are excited about the beginning of a partnership with a world class university, the YMCA, and ExxonMobil," YMCA Executive Director Keith Hicks said.

"Through the Green Team, ExxonMobil was able to provide high school students with relevant hands-on job experience while emphasizing the importance of environmental stewardship, technology and community service," said Carolina Asirifi, community liaison for ExxonMobil. "The projects they undertook will leave a lasting

impression that our Greenpoint neighbors will be able to enjoy for many years. Our goal was for the students to walk away from this program with a sense of pride and accomplishment that will help them as they complete high school and pursue their goals. By all counts, that goal was not only met, but exceeded."



Students on the Green Team work together to clean a local park.

The Green Team focused on four themes: green technology, careers, community service and history, with a key project being revitalization and beautification of Lentol Garden.

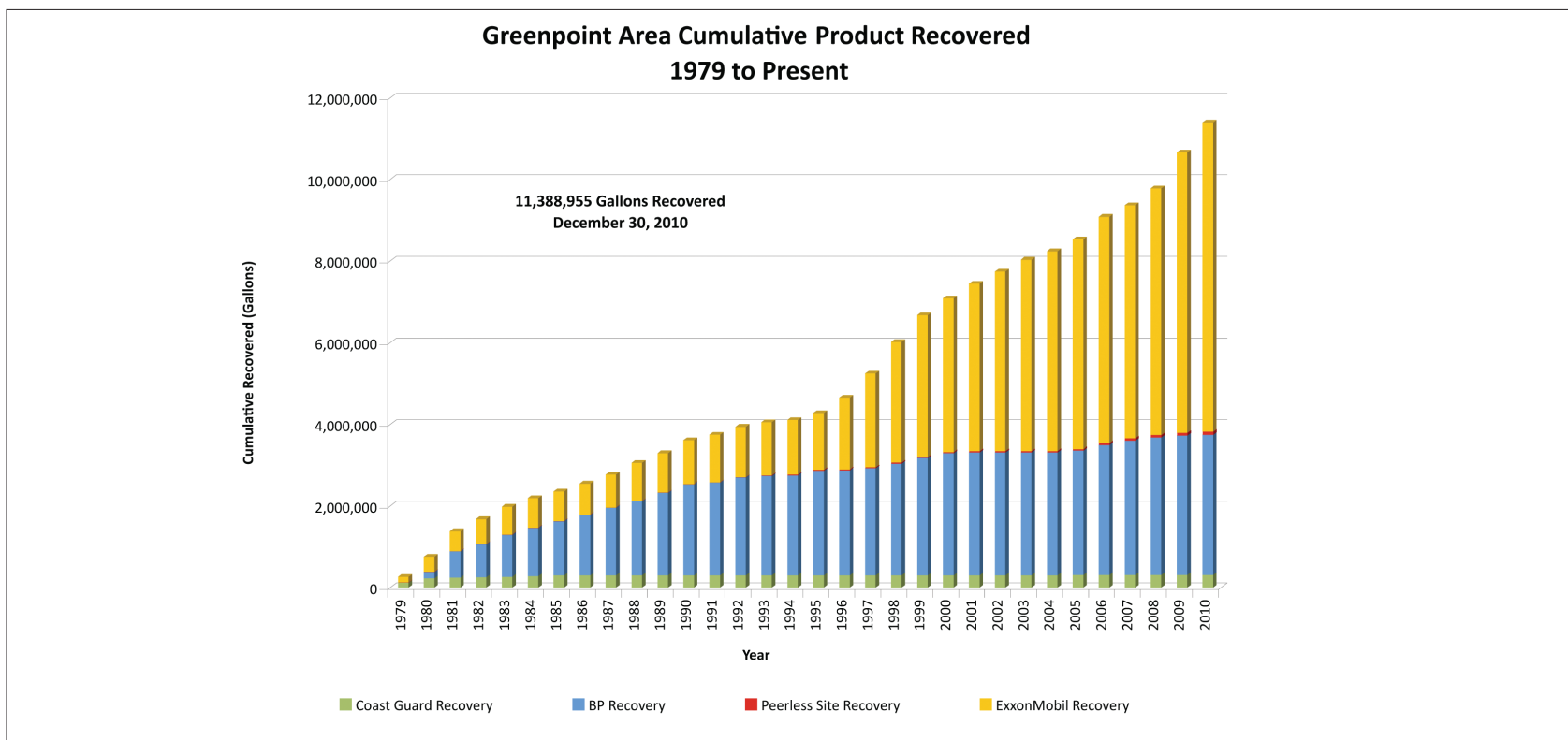
"After working in the garden, I felt that we were finally getting somewhere, even though we were just getting started," Emilia Sasiela, a 16-year Greenpoint resident, wrote in the *Greenpoint Star*. "We were weeding and pruning, as well as picking up trash and trimming some bushes and trees. I enjoyed doing this work because I knew that we were working towards a greater goal of beautifying the Lentol Garden. It is a nice feeling knowing that we are helping the community and giving back.

In addition to the Lentol Garden project, program participants attended numerous workshops and field trips throughout the summer. Among the field trips were visits to Black Rock Forest, Solar One, Storm King Art Center, Brooklyn Historic Society, ExxonMobil and NYU. Through the visits students learned about green technology, urban ecology, environmental stewardship, local environmental issues and were exposed to a variety of environmental careers.



Holiday Toy Drive
Robin Smith of the ExxonMobil Greenpoint team presents books, toys and other gifts the team collected to contribute to PS 110's annual Holiday Toy Drive. Also pictured (l. to r.) are Marina Lituma, Christine Greenwood and Carolina Greenwood.

ExxonMobil tests technologies to enhance recovery



ExxonMobil continually evaluates new technologies in an effort to enhance our remediation efforts and to ensure we are using advanced system components to accelerate recovery and remediation at Greenpoint. In 2010, ExxonMobil evaluated several new technologies for potential use at the Greenpoint site, including the second phase of a pilot study of the Primawave technology.

The studies have been completed and are being evaluated. Once the state Department of Environmental Conservation has been able to review and approve the conclusions, ExxonMobil will publicly share the results.

ExxonMobil identifies potential technologies through several means: As a large company known for our scientific research, we frequently are approached by other companies that have innovative, new technologies. Similarly, our engineers are engaged in the remediation community; have access to vast amounts of technical literature as well as best practices derived from pilot testing and remedial activities at other sites around the U.S. and the world, and attend cutting-edge conferences focused on remediation strategies and technology.

All new and innovative technologies need to be carefully evaluated before they are incorporated into a remediation plan. Several factors are considered when determining whether a new technology or approach is appropriate for use at Greenpoint including: potential effectiveness; technical feasibility of implementation; long-term reliability; environmental impacts, such as energy usage and waste generation; and administrative feasibility (i.e., regulatory and/or access issues). We also take into account the effectiveness of the current remediation strategy, and whether the new or alternative technology is compatible with the current approach, or if it will result in a significant improvement from the current approach.

In 2010, ExxonMobil conducted the second phase of a pilot study of the Primawave technology. The first phase was initiated in 2009. This new technology is designed to increase the volume of groundwater that can flow towards the recovery wells, thereby increasing the migration and recovery of petroleum product.

Additional evaluations in 2010 included:

- > **Vibration Pilot Study**—Vibrations have been shown to increase the output of production wells, therefore it was theorized that vibration mechanisms within our recovery wells would increase recovery of the well. Vibration units were installed within two recovery wells and initial results indicate that there is an increased recovery rate of the well. We are continuing to test the vibration units in 2011.
- > **Shallow Aquifer Pilot Study**—Spill Buster recovery units and high-vacuum extraction methodologies were pilot studied within the shallow aquifer to reduce the isolated free-product accumulations within areas of the formation. ExxonMobil also plans to evaluate other alternative technologies in the shallow aquifer in 2011.

The testing in 2010 demonstrates the complexity of identifying new technologies to optimize remediation and recovery processes. In 2011, ExxonMobil will conduct additional testing of the vibration units and also is exploring a new air sweep technology, which would be an enhancement of soil vapor extraction to enhance product recovery.

2010 Accomplishments

- > Launched full-scale soil vapor extraction system
- > Recovered nearly 716,000 gallons of product from the subsurface
- > Treated and discharged more than 321 million gallons of groundwater
- > Met all milestones required by NY Department of Environmental Conservation for the Greenpoint Remediation Project
- > Recycled 612 pounds of aluminum and plastic, 2,544 pounds of cardboard and 296 pounds of office paper since launch of recycling program in June 2009
- > Conducted pilot studies of three new technologies to enhance product recovery

Soil Vapor Extraction System Up and Running

ExxonMobil's soil vapor treatment system is fully functional and proving highly effective in addressing soil vapor, which is found only in isolated locations in Greenpoint's industrial/commercial area. Bi-annual sampling conducted last August showed soil vapor results well below target levels requiring action.

ExxonMobil has committed to continue its soil vapor sampling under the agreement signed with the State of New York.

The soil vapor extraction system, which began full-scale operation in June 2010, consists of seven wells connected via underground piping to a new treatment facility constructed at the intersection of Bridgewater and Varick Streets. The wells and piping were installed in 2009 in the subsurface above the underground petroleum plume. The treatment facility contains a process fan and furnace which together create a powerful vacuum that pulls the soil vapor at 2,200 cubic feet per second. Once within the furnace, the soil vapor is essentially "cooked" at 1400 degrees Fahrenheit which destroys the volatiles in the soil vapor.

Reducing Our Footprint

ExxonMobil has completed site upgrades that reduce the new facility's impact on the environment, including installation of a storm water management system featuring six landscaped rain gardens. Incorporating rain gardens into building design is a growing trend that offers not only aesthetic, but environmental benefits. Rain gardens collect rain from roofs, parking lots, and sidewalks, and thus capture the water and pollutants

that otherwise would end up in storm-water systems and in our region's waterways.

ExxonMobil also completed the installation of solar panels, which will become operational by spring 2011. The panels will supply 30,000 watts of energy, which is enough to satisfy the needs of the facility's office space.



Solar Panels on SVE building ExxonMobil uses solar panels on its new Soil Vapor Extraction facility to produce 30,000 watts of energy, enough to supply the needs of the facility's office space.

Employee Snapshot: Bjorn Wespestad

Bjorn Wespestad, who joined Roux Associates' Greenpoint team in 2007, traces his interest in environmental remediation projects to a pivotal college experience. As a student in the Civil and Environmental Engineering program, he was required to participate in *Engineering Clinics*. Through these clinics, Bjorn put his classroom lessons to the test on real world environmental remediation sites. Bjorn's clinics focused on ground water contamination at U.S. Air Force bases in Oklahoma and Delaware.

When Bjorn graduated from the program in 2006, he initially was involved in residential surveying and site planning for a small development firm in New Jersey. In 2007, he welcomed the opportunity to return to the field of environmental remediation and accepted a position with Roux Associates, an environmental services company working with ExxonMobil on the Greenpoint Remediation Project.



“Greenpoint offered me a great opportunity to re-engage in environmental remediation work,” Bjorn said. “I like being a part of a team that's really focused on ensuring we're using the optimal remediation strategies here. I monitor and

implement several of the pilot studies of new technology to determine



Safety Record Ensuring the safety of the crew and neighborhood are central to ExxonMobil's remediation plan at Greenpoint. Roux Associates technicians, an environmental services company working with ExxonMobil, recently were recognized for working for 1,510 days and more than 300,000 hours without a loss time injury.

if they are appropriate for use on the site. It feels good to be a part of the work that's going on here to improve the community where I live.”

Bjorn moved to the Brooklyn area upon accepting the position with Roux. He was attracted to the community not only for the ease of the commute, but the character of the neighborhood. “Greenpoint is a really up-and-coming neighborhood with a lot in the way of social opportunities for its residents. I wanted to find a great neighborhood—and I did, I see myself here for the long-term.”

ExxonMobil

For comments or inquiries contact Carolina Asirifi, Community Liason, at carolina.a.asirifi@exxonmobil.com.

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