

ExxonMobil Progress

Greenpoint Community News

SUMMER 2017 | VOL.9 | EDITION 1



Students Soar at Space Camp

The John Ericsson Magnet School for Environmental Engineering seeks to spark student interest in real world application of STEM principles through its Air and Space Science Club program. The year-long program provides students with the chance to explore space science and various aeronautics topics created by NASA. At the end of the year, students can attend a space camp where they share and expand on their interest in space science with other students their age from around the world. The Air and Space Science Club provides students with an outlet for their scientific curiosity as well as the opportunity to build relationships with like-minded peers.

This year, as part of its commitment to STEM education, Exxon Mobil sponsored 12 students from grades 6 – 8 to attend Cosmodome, a space science center in Montreal, Canada. The week-long, overnight space camp program is only one of five in the world. Cosmodome features NASA vehicle simulators and augmented gravity activities. It also serves as a space museum, housing one of two lunar rocks on display in Canada.

During the camp, students learn about the history of space, attend scientific workshops, construct and launch rockets, and study microgravity in simulated space shuttle missions.



A student experiencing the Multi-Axis Chair, an activity in which trainees attempt to perform mental tasks while being rolled around in three dimensions.

2016 Accomplishments

- The operation of 23 recovery wells continued as part of the overall product recovery efforts. The wells averaged 308 gallons of recovered liquid product per day, with an average operational run time of 96%.
- Recovered an estimated 112,483 gallons of liquid product, bringing the lifetime estimated total of product recovered by ExxonMobil to more than 9 million gallons. The total amount of product recovered by all parties rose to 12.9 million gallons.
- Operation of the Soil Vapor Extraction (SVE) System continued to mitigate any methane soil vapor and removed an estimated liquid equivalent of 50,608 gallons of product.

- A new recovery well was installed within Operable Unit 8 (OU-8) to optimize free-product recovery.
- Six new SVE wells were brought online as part of the OU-7 and OU-8 SVE system expansion, increasing the radius of influence of the SVE system and recovery of soil vapor.
- The vacuum-enhanced recovery (VER) technique was expanded to an additional recovery well to increase recovery of soil vapor.
- Installed and optimized filter press technology to improve the solids removal efficiency and overall performance of the system.
- In accordance with the March 1, 2011 Consent Decree, numerous reports and progress updates were provided to the NYSDEC and made available for review by the public.

2017 Updates

- A new recovery well within OU-8 was brought online to optimize free-product recovery.
- A new SVE well within OU-8 was brought online and operational.
- Ongoing soil vapor monitoring efforts, sampling permanent soil vapor points throughout the residential and commercial areas.
- Ongoing groundwater monitoring efforts, sampling monitoring wells throughout residential and commercial areas.
- Continued implementation of VER at select recovery well locations to increase product recovery rates.

Overall Project Progress

- On April 28, 2016, NYSDEC issued a FINAL record of decision for OU-2 that identified no further action was necessary; this operable unit is closed.
- On April 28, 2016, NYSDEC issued a FINAL record of decision for OU-6 that identified no indication of impacts from historic ExxonMobil operations and no further action was necessary; this operable unit is closed.
- On April 28, 2016, NYSDEC issued a FINAL record of decision for OU-1 approving ExxonMobil's recommended remedy which will be completed by the end of 2017, pending access to this third party owner property.
- Monitoring data confirms hydraulic control of groundwater towards recovery wells.

Pearls of New York Harbor



Harbor School students monitoring the Brooklyn Bridge Park Community Oyster Reef with Nature Conservancy scientist Mike McCann

When Henry Hudson sailed into the New York Harbor in 1609, the river that would eventually bear his name was home to 220,000 acres of thriving oyster reefs. Fast forward some 400 years to today when the harbor's oyster population has been decimated from overharvesting and pollution. The Billion Oyster Project (BOP) aims to turn back the clock.

The local initiative, launched by the New York Harbor School and New York Harbor Foundation, intends to plant one billion oysters in the New York Harbor by 2030 to promote the importance of environmental restoration and protecting local marine ecosystems.

Why bring back the oysters?

Despite their small stature, oysters play a big role in restoring an entire ecosystem. A single adult oyster can filter up to 50 gallons of water a day, removing pollutants, algae and sediment from its environment. Their reefs also serve as homes for a significant number of underwater organisms.

To date, the initiative has restored 20 million oysters into New York's harbor since its launch in 2014. By the end of the project the oysters will help filter the entire harbor, approximately 74 billion gallons of water every three days.

Restoration and education

All the oysters start their journey at ExxonMobil's former Greenpoint refinery site, which is maintained by the company's Environmental Services division in Brooklyn, NY. Students from Harbor School, one of several local schools supported by ExxonMobil, use the site to store and reuse oyster shells collected from restaurants. This not only saves the shells from filling up landfills, it reduces the number of trips for the BOP collection trucks.

Next, the oysters go to school. Students grow oyster larvae in their science labs to plant on the reused shells. Once matured, the oysters then are planted at various sites around the harbor. Harbor School and 60 other New York City public middle schools use the organisms in biology and ecology research projects, integrating BOP into STEM education.

Finally, the oysters finish their journey at the New York Harbor, where Harbor School students introduce and further monitor them in the reefs.

"People often say New Yorkers are too busy to care about the well-being of the New York Harbor," said Murray Fisher, founder and president of New York Harbor Foundation, New York Harbor School and co-founder of the Billion Oyster Project. "But our project shows otherwise. We've successfully brought a community of advocates, partners and volunteers together to restore a billion oysters to New York Harbor."



Students monitor the Bush Terminal Park Community Oyster Reef



Harbor School Aquaculture students move oysters from the Wallabout Basin oyster nursery to oyster reef at Soundview Park in the Bronx.

Open Letter to Residents

Welcome to the ninth annual issue of the ExxonMobil Greenpoint Progress, a newsletter to keep you informed about the ExxonMobil Greenpoint Petroleum Remediation Project. As your Greenpoint community liaison, I once again want to extend our gratitude for your patience and support of our remediation work. This issue has stories about the progress we have made in our remediation project, as well as our efforts in supporting Greenpoint schools and community organizations.

ExxonMobil is committed to supporting the communities where we operate. Our three corporate focus areas are education, health and improving economic opportunities for women. In Greenpoint we seek to further these objectives by proudly supporting a variety of organizations, including:

PS 34 and 110	YMCA Strong Kids program	NY League of Conservation
MS 126 and IS 318	Go Green! Brooklyn Festival	Voters Education Foundation
Williamsburg High School for	Big Brooklyn Holiday Toy	Waterfront Alliance
Architecture & Design	Drive	Pure Earth
HarborLAB	Curb Your Litter	The Billion Oyster Project
Evergreen	Brooklyn Chamber of	North Brooklyn Angels
Newtown Creek Alliance	Commerce	
North Brooklyn Development	North Brooklyn Chamber of	
	Commerce	

As always, if you have any questions about our work or the programs we support, please feel free to contact me.

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