



On-Site (OU1) Groundwater Treatment System

Groundwater cleanup began in April 1993 when Unisys installed an interim groundwater treatment system, Operable Unit 1 (OU1), to start removing the volatile organic compounds at the Marcus Avenue site's northern boundary. Lockheed Martin continued this approach from the time of purchase,

recognizing that capturing contaminants near the site as soon as possible would reduce the volume of

the plume leaving the site. In 1997, the New York State Department of Environmental Conservation (NYSDEC) directed Lockheed Martin to install a state-of-the-art system to replace the OU1 interim system (recovery or pumping wells and diffusion wells are shown in pink on Figure 1). To clean up contaminated groundwater that had already moved off-site, Lockheed Martin constructed a

second interim groundwater treatment system, Operable Unit 2 (OU2), in 2004. OU2 is located just south of the Great Neck South school and north of the site (recovery, or pumping, well and diffusion, or reinjection, well are shown in orange on Figure 1). The interim OU2 system began full-time operations in 2006. In a 2014 Record of Decision, NYSDEC formally approved Lockheed Martin's plans to operate OU1 at 850 gallons per minute and OU2 at 500 gallons per minute. The NYSDEC also approved Lockheed Martin's plan to reimburse contaminants of concern treatment costs to the Water Authority of Great Neck North and the Manhasset-Lakeville Water District, the two water purveyors with supply wells impacted by the groundwater plume, to ensure the continued protection of the public water supply. Lockheed Martin has worked closely with the two public y cvgt" rwtxg{ qtu"cpf"nqecn" i qxgtp o gpv"qhLkcnu" throughout the planning, implementation, and operation of the groundwater cleanup project. Additionally, Lockheed Martin discussed the



Off-Site (OU2) Groundwater Treatment System

alternatives for cleaning up the groundwater contamination with residents of the area surrounding the former Unisys site. To date, more than 60,000 pounds of volatile organic compounds have been removed from the more than 12 billion gallons of groundwater that have been processed by Operable Units 1 and 2. A timeline of these community outreach activities, and project activities

These three wells are located on Community Drive. Consistent operations of the OU1 and OU2 systems have served to capture the groundwater plume from onsite and near-site areas north of the Unisys site, thereby reducing the amount of mass in the groundwater plume moving northward towards the water supply wells. (See Figure 1)

groundwater, and groundwater on the northern half of Long Island, including the Great Neck Rgpkpuwnc." i gpgtcn{ " f q y u" p q t v j " c p f" p q t v j y g u v" v q" the Long Island Sound. The path of the plume is also impacted by the public water supply wells, N13821, N13000, and N12999, operated by the Water Authority of Great Neck North, which are rwnkpi" v j g" r n w o g" g c u v l p q t v j g c u v" * U g g" H k i w t g" 3 + 0"

Yes. Lockheed Martin provides funds to the Water Authority of Great Neck North to pay for the additional expense of upgrading, maintaining, and operating equipment to remove contaminants related to the Unisys operation from the groundwater. Impacted wells include the Community Drive wells (N13821, N13000, and N12999), and the Watermill Lane wells (N4388 and N12796).

Yes, and Lockheed Martin has already
constructed an additional water treatment system

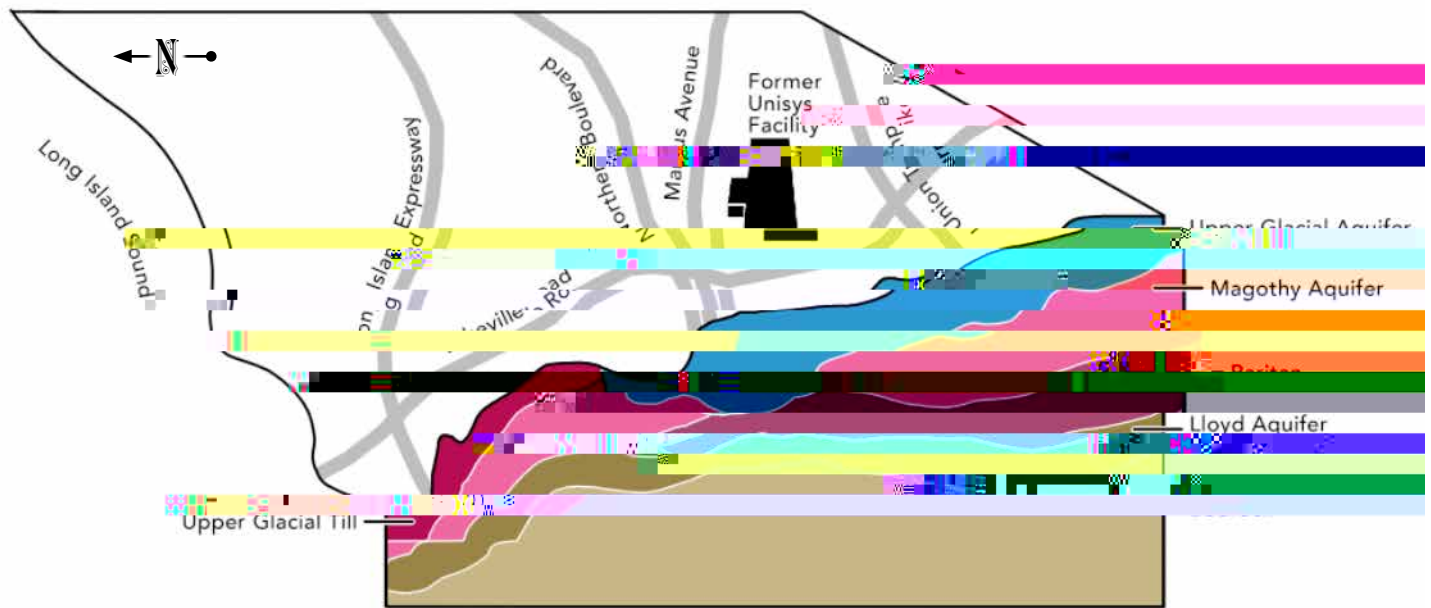


Figure 2 depicts a concept of the ground surface where the former Unisys facility and major roadways sit atop aquifers and other clay and rock features beneath the ground surface.

mixes with the shallow portion of the groundwater plume. Also, because of the depth of the former Unisys plume, residents digging on their properties needn't worry about encountering the contaminants. (See Figure 2) There is no opportunity for vapor intrusion either, since the rainwater layer above the contaminated water traps and prevents vapors from moving beyond the clean layer.

Lockheed Martin monitors the location of its groundwater plume using more than 100 monitoring wells. The monitoring wells are used to collect water level measurements and groundwater samples. Select wells are sampled quarterly, while a more comprehensive sampling round occurs annually.

Once contaminated groundwater has passed through air-stripper treatment, the treated water is pumped back into the ground at diffusion (or

reinjection) wells—DW11, DW12, DW13, DW14, and DW15 for Operable Unit 1, and DW100, DW101, and DW102 for Operable Unit 2. (See Figure 1) Pumping the treated water into the ground recharges the aquifer.

Working with the New York State Department of Environmental Conservation (NYSDEC), Lockheed Martin developed 19 alternatives for placing extraction wells. Certain locations were a densely populated area, and by the fact that high-powered pumping wells placed too close to Long Island Sound could draw saltwater into the groundwater aquifer. Ultimately, NYSDEC, Lockheed Martin, and the two water purveyors determined that in all scenarios, water purveyor wells would be impacted and would need treatment, and that very little difference existed between each of the alternatives in ultimate contaminant capture. A multi-party agreement was established between Lockheed Martin, the Water Authority of Great Neck North, and the Manhasset-Lakeville



Lockheed Martin funding for Manhasset-Lakeville Water District's Cumberland Well supports water treatment to provide clean water to its customers.

Water District to set pumping rates and cleanup reimbursement, effectively adding contaminant capture and treatment beyond what could be recovered at the OU1 and OU2 groundwater treatment systems operated by Lockheed Martin.

This water is used only for irrigating golf courses and is treated at the Village of Lake Success golf course. Treatment is required for the Village of Lake Success golf course because the groundwater is discharged to a surface water body (Lake Surprise) prior to the water being used as irrigation water.

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) have been involved since the beginning investigations and provide oversight on all aspects of remediation for the former Unisys site.

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