LOCKHEED MARTIN

Former Unisys Site Groundwater Fact Sheet

Spring 2023

Lockheed Martin purchased the Unisys Defense Systems site at 1111 Marcus Avenue in Great Neck, New York in 1996, closed the facility in 1998, and then sold the property in 2000. Lockheed Martin retains responsibility for the environmental cleanup at the site, including responsibility for the plume of contaminated groundwater resulting from the former Unisys operations.

As part of the original manufacturing operation at the Unisys site, a series of dry wells were constructed at the southeast corner of the main building for the disposal of liquid wastes. The former Unisys groundwater plume originates from this area and generally flows north/northwest from the site and encompasses approximately 1.5 square miles (see Figure 1). The plume lies between 100 and 400 feet below the surface of the ground and has affected some public water supply wells for the Water Authority of Great Neck North and the Manhasset-Lakeville Water District, as well as a nearby golf course irrigation well. Treatment systems are in place on the impacted public water supply wells and the irrigation well. The public water supply well treatment allows the water supplied by the water purveyors to meet the New York regulatory drinking water standards. The primary contaminants of concern stemming from the former Unisys site in the groundwater are volatile organic compounds (VOCs)—trichloroethene (TCE), tetrachloroethene (PCE), cis 1,2-dichloroethene (cis 1,2-DCE), and Freon 113. These chemicals were likely used as cleaning solvents at the former Unisys site.

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 water purveyors and local government officials throughout the planning, implementation, and operation of the groundwater cleanup project. Additionally, Lockheed Martin discussed the

To date, more than 60,000 pounds of volatile organic compounds have been removed by Operable Units 1 and 2.

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 is available at: www.lockheedmartin.com/greatneck.

What is the location of the former Unisys site groundwater plume and what determines its flow?

The plume follows the natural flow of groundwater, and groundwater on the northern half of Long Island, including the Great Neck Peninsula, generally flows north and northwest to 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 pulling the plume east/northeast (See Figure 1). 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)

Is the Water Authority of Great Neck North already treating contaminated groundwater?

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).

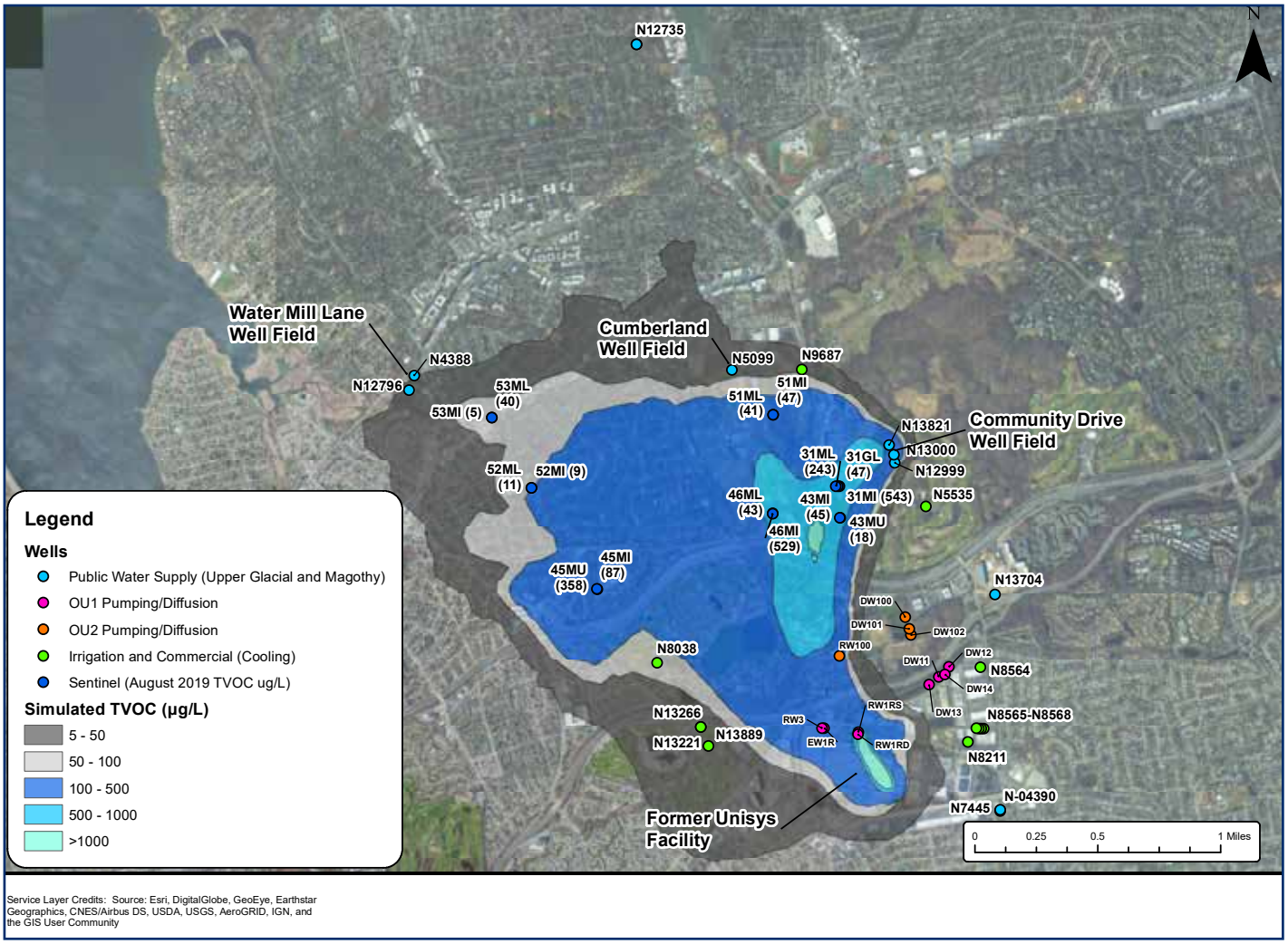

Figure 1 depicts the Former Unisys groundwater contaminant plume in 2019 and various nearby wells.

It looks like the plume is heading north towards Manhasset-Lakeville Water District's Cumberland well, N5099. Has it been affected?

Yes, and Lockheed Martin has already constructed an additional water treatment system at that well. Operating funds are also provided to pay for the treatment to ensure water supplied from that well is appropriately treated and meets state regulatory standards.

Is the community drinking contaminated water related to the former Unisys groundwater plume?

No. There is no exposure route from the contaminated groundwater to the community. Contaminated groundwater is treated by the Water Authority of Great Neck North and the Manhasset-Lakeville Water District prior to distribution to the public. Lockheed Martin reimburses both water suppliers for costs related to treatment of the contaminated groundwater.

Is the entire subsurface within the footprint of the former Unisys plume contaminated?

No, the entire aquifer is not contaminated. The groundwater plume is found at depths of 100 to 400 feet below the ground surface because of groundwater pumping conditions that occurred during the initial release of the plume and the natural vertically downward movement of groundwater in this area of Long Island. When it rains, rainwater percolates through the soil and

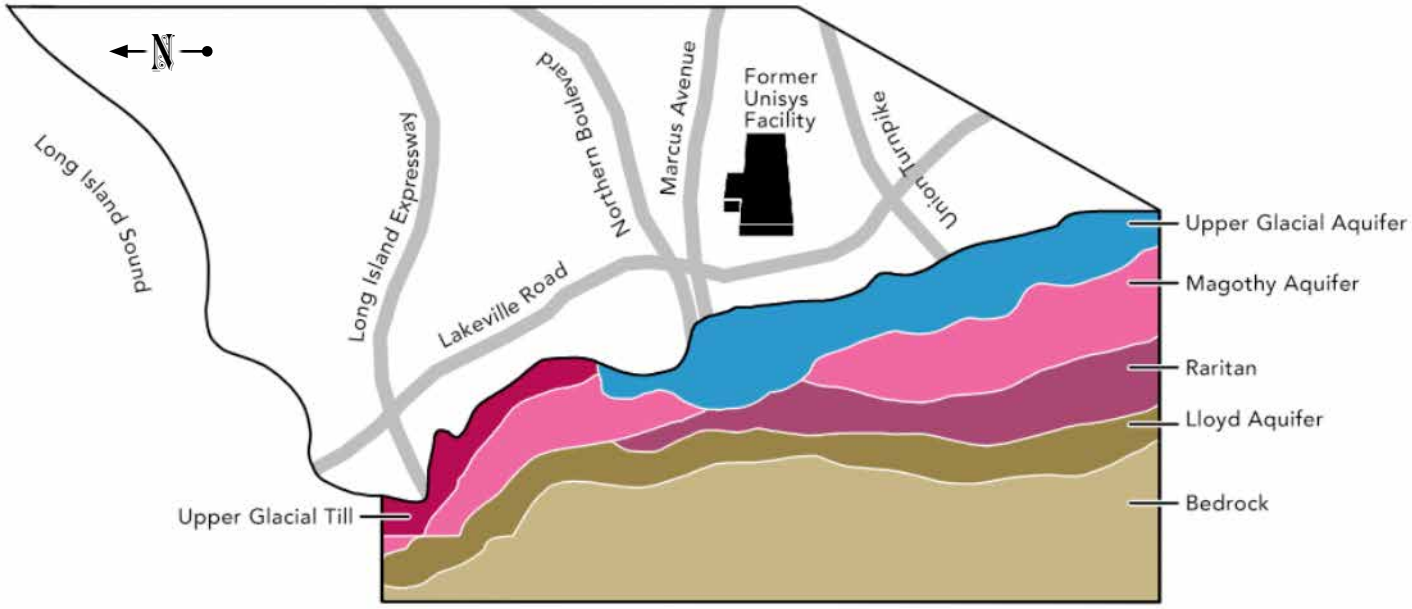

Figure 2 depicts a concept of the ground surface where the former Unisys facility and major roadways sit atop aquifers and other clay and rock features beneath the ground surface.

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.

How do you know the location of the former Unisys plume?

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.

What happens to the cleaned groundwater Lockheed Martin treats on- and off-site?

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.

How did Lockheed Martin and the water providers decide on its cleanup strategy?

Working with the New York State Department of Environmental Conservation (NYSDEC), Lockheed Martin developed 19 alternatives for placing extraction wells. Certain locations were eliminated by the difficulty of placing wells in 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.

Five irrigation wells are shown on the map. How is this water treated?

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.

What government agencies are responsible for approving this project?

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.

Whom do I contact for more information?

New York State Department of Environmental Conservation – Girish Desai
girish.desai@dec.ny.gov (631) 444-0243

New York State Department of Health – Renata Ockerby
BEEI@health.state.ny.us (518) 402-7880

Lockheed Martin Corporation – Communications
(800) 449-4486

More information is available at
www.lockheedmartin.com/greatneck