



# Topps Cleaners

Fair Lawn Borough, Bergen County

October 2009

## Background

The former Topps Cleaners is located at 22-02 Fair Lawn Avenue. It is bordered by an Exxon service station to the east, a soccer field known as Archery Plaza to the south, railroad tracks to the west and Fair Lawn Avenue to the north. The site is currently a vacant lot.

Several dry cleaning establishments occupied the site between 1950 and 2004. As a result of these operations, the soil and ground water were contaminated with the dry cleaning fluid tetrachloroethene (also known as perchloroethylene, or PCE), a chlorinated volatile organic compound. The contamination was discovered during the remedial investigation of the nearby BASF property. The New Jersey Department of Environmental Protection (NJDEP) directed the Topps property owner to conduct a remedial investigation to determine the extent of the PCE contamination and develop a cleanup plan.

In 2004, Anderson Mulholland Associates Incorporated (AMAI), the Topps property owner's environmental consultant, began the remedial investigation of the property, which included collecting soil samples to delineate the soil contamination and installing and sampling on-site and off-site ground water monitoring wells to delineate the ground water contamination

plume. When sampling revealed the ground water plume had migrated off-site in a southeasterly direction to a residential area on Plaza Road, NJDEP required the Topps property owner to investigate whether PCE vapors from the plume were entering the overlying homes (a process known as "vapor intrusion"). Since 2005, AMAI has conducted air testing at 62 properties on Plaza Road, Ramapo Terrace, Ramsey Terrace, Reading Terrace and Townley Road to evaluate the potential for vapor intrusion at these homes. The testing showed that 13 homes had levels of PCE vapors in the indoor air that exceeded NJDEP's Residential Indoor Air Screening Level of three micrograms per cubic meter ( $3 \mu\text{g}/\text{m}^3$ ) for this chemical. AMAI has installed subsurface depressurization systems (also known as vapor mitigation systems) at most of these homes to reduce the levels of PCE vapors, and is monitoring the indoor air at the homes where PCE was detected in the sub-slab soil gas at levels exceeding NJDEP's Residential Soil Gas Screening Level of  $34 \mu\text{g}/\text{m}^3$ .

In 2007, AMAI installed an electrical resistance heating (ERH) system at the former Topps Cleaners property to remediate the PCE contamination in the on-site soil. The ERH system heated the soil and ground water to

drive off the volatile contaminants. The vapors were captured by a soil vapor extraction system connected to a carbon filter. The system was shut off in 2008 after tests confirmed the soil had been remediated to NJDEP's soil cleanup criteria. However, elevated levels of ground water contaminants remained onsite.

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## Public Meeting Notice

A public meeting to update Fair Lawn residents on the remediation of the former Topps Cleaners site will be held on **Monday, October 26, 2009 at 7:30 pm** at the **Fair Lawn Community Center**, which is located at **10-10 20th Street**.

Representatives from AMAI and NJDEP will be available to answer your questions.

**Site documents are available for review in the reference section of the Maurice Pine Library at 10-01 Fair Lawn Avenue.**

NJ Department of Environmental Protection

Jon S. Corzine  
Governor

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Mark N. Mauriello  
Acting Commissioner

## Current Status

The vapor intrusion investigation is complete and no further residential indoor air or sub-slab soil gas testing is planned. AMAI is periodically testing the indoor air at homes where soil gas testing showed there were elevated levels of PCE vapors beneath the basement slabs but the indoor air did not have significant levels of PCE vapors. If the monitoring shows the PCE level in the indoor air at a home exceeds NJDEP's Indoor Air Screening Level for this chemical, the owner of the property will be offered a subsurface depressurization system.

AMAI continues to investigate the extent of the ground water plume. To date, 66 on-site and off-site ground water monitoring wells are being monitored and AMAI is installing additional wells to the west of the railroad tracks near the Topps site.

## Future

AMAI will monitor the ground water at the Topps site to evaluate whether the levels of the volatile organic contaminants decrease over time. Additional monitoring wells may be required east of Sunnyside Drive in order to delineate the plume. Once the ground water plume has been delineated, options to remediate the plume will be evaluated. Remediation of the ground water contamination plume will also eliminate any vapor intrusion issues at the affected homes.

**For more information about the Topps Cleaners site please contact Heather Swartz, NJDEP Community Relations Coordinator, at (609) 984-7135, or write to [Toppsinfo@amaiconsult.com](mailto:Toppsinfo@amaiconsult.com)**

## Glossary

**Delineate:** To determine the extent of contamination in soil, ground water or air due to a discharge of hazardous substances.

**Ground Water:** Subsurface water that fills pores between materials such as sand, soil or gravel.

**Indoor Air Screening Level (IASL):** The acceptable concentration of a volatile organic compound in indoor air as determined by NJDEP based on toxicological data and other criteria. If indoor air sampling reveals that an IASL is exceeded, further action is required to address the indoor air contamination. NJDEP's current Residential IASL for PCE is three micrograms per cubic meter (3  $\mu\text{g}/\text{m}^3$ ).

**Monitoring Well:** Monitoring wells provide access to ground water in order to get information about site conditions, such as the extent and type of ground water contamination, soil types, depth to ground water and direction of ground water flow.

**Perchloroethylene (PCE):** Another name for tetrachloroethene, also known as Perc. This volatile organic compound is commonly used as a dry cleaning fluid and degreasing agent.

**Remedial Investigation:** An in-depth study designed to gather data necessary to determine the nature and extent of contamination at a site and establish criteria for addressing it.

**Remediate:** To remedy or clean up.

**Soil Gas:** The gases trapped between soil particles.

**Soil Gas Screening Level (SGSL):** The concentration of a volatile organic compound in sub-slab soil gas that when exceeded triggers action to ensure the concentration of the contaminant in the indoor air does not exceed NJDEP's IASL for that chemical. NJDEP's current Residential SGSL for PCE is 34 micrograms per cubic meter (34  $\mu\text{g}/\text{m}^3$ ).

**Soil Vapor Extraction System:** A mechanism that remediates VOC-contaminated soil by applying a vacuum to the contaminated area to pull out the organic vapors. The captured vapors are treated to prevent release into the environment.

**Subsurface Depressurization System (SSDS):** A device that prevents vapors in the soil beneath a building from entering the structure and contaminating the indoor air. It ventilates the soil directly below the basement floor or slab and diverts the vapors away from the building.

**Vapor Intrusion:** Occurs when fumes from VOC-contaminated soil or ground water seep through cracks and holes in the foundations or slabs of buildings and accumulate in basements, crawl spaces and/or living areas.

**Volatile Organic Compound (VOC):** Carbon-containing chemicals that evaporate readily at room temperature. Examples of products that contain VOCs include gasoline, dry cleaning fluid and degreasing agents.