

Background

- Reports of odors in March prompted the consultant to the Newark Board of Education to sample the water in the schools sump pits.
- Reports of previous odors are now coming to light
- The results of the sump water sample showed contamination from gasoline
- Air samples were then taken, those results led to the students being relocated by the Board of Education.

What caused the problem?

- Groundwater under the school building was apparently contaminated with gasoline from an unknown source.
- Melting snow and heavy rain in March raised the level of the contaminated groundwater up to the gym floor.
- A sump pump clogged and the gym floor flooded.

What caused the problem?

- Vapors from the contaminated ground water entered the school through the sump pits, causing a Vapor Intrusion problem.
- The air samples showed elevated levels of Benzene; 1,4, Dichlorobenzene; and Perchloroethylene.
- Only Benzene was also found in the water.

What is vapor intrusion?

- It starts, in this case, with gasoline leaking from an underground tank or being spilled on the ground where it flows down through the soil until it reaches the ground water.
- Most of the gasoline will float on the ground water, but certain chemicals in the gasoline will mix with the ground water. The most common chemicals that will mix are Benzene, Toluene, Ethyl Benzene, and Xylenes. Referred to as BTEX.

What is vapor intrusion?

- Although gasoline related chemicals mix with ground water as a liquid, they also evaporate from the groundwater as a gas, or "vapor"
- As they evaporate they slowly "float" to the ground surface and into the air.
- Ground water flows "down hill".
- As ground water passes beneath buildings the chemicals evaporate from the ground water.

What is vapor intrusion?

- If the basement floor blocks the way, they will collect under the floor (slab).
- If there are holes in the floor (sump pits), the vapors, will “float” into the building.
- When this happens, we call it Vapor Intrusion.

Objectives

- Protect the students, teachers, and workers by preventing vapors from entering the school through the sump pits.
- Prevent contaminated ground water from overwhelming the sump pumps and entering the school.
- Find the source of the contamination
- Sample nearby buildings

Address vapors in the school.

To start tomorrow (4/28/10)

- Make improvements to the sump pits
- Add second pump in case one fails
- Cover sump pits and install a vent pipe to the outside.
- Safely vent vapors
- Run the system for a few weeks
- Test the air in the school
- Newark Board of Ed. and DHSS make decision to re-open the school





Source Investigation

- Sample the ground water around the school using a "geoprobe".
- Approximately 40 samples will be taken from 20 locations.
- No sampling will occur while students present.
- Sampling should point to where the contamination is coming from .
- Move toward source and keep sampling till pinpointed.

Wilson Avenue School
City of Newark, Essex County, New Jersey



New Jersey Department of Environmental Protection
Bureau of Environmental Measurements & Site Assessment
April 15, 2010

0 50 100 200 Feet

● Proposed Sampling Location

Wilson Avenue School
City of Newark, Essex County, New Jersey



New Jersey Department of Environmental Protection
Bureau of Environmental Measurements & Site Assessment
April 15, 2010

0 90 180 360 Feet

● Proposed Sampling Location

Nearby Buildings

Begin week of May 17th

- Sampled two early learning centers. No elevated results.
- Buildings on adjacent streets, Alyea, Wilson, Ferry. Move outward if necessary
- sample vapors below basement floor and air in basement.



Wilson Avenue E.S.

What's ahead.

- All three actions will continue concurrently.
- All three will take weeks to complete.
- By this summer we will have the results of the air samples from the school after installation. We will hold another public meeting before school is due to start.

What's ahead.

- Updates will be posted on DEP's web page, http://www.nj.gov/dep/srp/community/sites/newark_wilson_ave_school/
- Documents will be placed in the Newark Public Library, Van Buren Branch at 140 Van Buren Street, Newark NJ 07105

The background of the slide is a blue-tinted photograph of a vast, calm ocean extending to a clear horizon. The sky is filled with soft, wispy white clouds. The overall mood is serene and open.

Questions?